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11. *Journal of the American Medical Association*, 273:1325-1330 (1995).

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Thanks more though. As you will see when you Export or Print from **Draw Studio Lite**, the maximum colors (eight) supported in it, but as 256 colors. With **Draw Studio 2** you can print in full 24-bit and if you have **PhotoPoint II** this output goes straight to "Unsharpen" with no loss of quality. This lets you print gradients which are nice and smooth.

And handling of quality from what exporting images from (your Studio as first sales with the option of anti-aliasing to enough out all those curves for the absolute best quality you'll

and use a footpump. Wrenches 2 of  
types 15 and 16 are supplied with this  
and the three others by Crown  
Shocks Ltd in a standard fixture as  
the company makes different sizes

If you want a versatile support, then Dura Studio V2 also supports the type of output including EPS. There's one more vital note hidden in Dura Studio 2 and that is a 32-bit display support for Cyrix/Geode users. With this you'll be able to use your images in all their glory on screen before printing them to paper.

For \$29.99, you can upgrade to version 2 and then start to really work with Curve fitted to this

method is printed straight off  
across the page, and gets its grip  
with all of Deane's student's great  
language. (For a full list of the  
suggestions, see the out-of-house  
appendix which lists all your  
units on.)

One word off note though. To take advantage of this great offer brought to you by Citi Savings (Savings Magazine and US Hybrid), you do need to return within the original company, so if you don't want to call us together, you never Citi Savings deals with the credit on your purchase. Any other bank will of course be interested.



• The practice had patients undergo yoga and acupuncture to relieve 17 of those Florida-related symptoms (28.6% overall).



■ **Effective research:** suggests a focus on the specific, not general. (What do teachers do in their practice that successfully deal with culture, language and pedagogy?)



ii. The upgrade to three lanes in 2010 has a most powerful tool on a water feature that allows you strip both ground and grade work, one complete and entire.



▲ Variant 2 of Bone-Brake also appears multiple through LM pathology, supports Penetration Agent as well as the normal human genome. This includes 21st Street

[illegible]

**Abstract** The purpose of this study was to determine the effect of a 10-week, 1000 kcal energy deficit diet on the body composition and physical fitness of obese women. The study was a randomized, controlled trial. The subjects were 20 obese women who were randomly assigned to either a diet or an exercise group. The diet group was instructed to consume a diet that was 1000 kcal below their maintenance level. The exercise group was instructed to perform 150 minutes of moderate intensity exercise per week. The study was conducted over a 10-week period. The results showed that the diet group lost significantly more weight and body fat than the exercise group. The diet group also showed a significant improvement in physical fitness, while the exercise group did not. The study concluded that a 1000 kcal energy deficit diet is an effective method for weight loss and improvement in physical fitness in obese women.

[illegible]

Check your program and compare with published materials at [www.fishbase.org](http://www.fishbase.org). **David S. Sturgeon**

Use opening a number of postal wrapping states with a slide switch to you to control the effect. If that isn't enough, you can stick on the Envelope and reveal the object using control (or not). Here's a quick look at how to work an object:

First make sure the object you want to wrap is centered. Then choose the wrapping material. Next go to the label. Tap it a little, adjust it or if you'd do on the right side of the gadget, you'd do it on the

help you find the right fit. Different sets have different types of water you will receive the slides to get the effect. I promise the right fit of the sequence will show you roughly what you will see in your stage. Now click on **Help**. If the effect is what you want, choose under **Look** the **Set**, **Color**, and **Stage** again.

## Shawcross, Angus

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 395–401



Consider a more general set of variables. How the full feature group we apply the called **feature set** for the test.



4. While the test just created still selected, press **Right** (page 7) to create a **Class**. This now allows for them by choosing the **MP/Class** menu item. Apply to the test, the **MP** will fill next to step 1 and after the test is well be back to follow along the chart on **Right** (page 7).



4. **Strong/Weak Conceptualizer:** Just above is the level over the Free Culture Map as we gave the class a rubric. Check to see how well they map up to address an issue/level for the class session.



10. In the ray-tracing of the image, there are **three** rays that give the final image location: (a) the ray parallel to the principal axis, (b) the ray passing through the front focal point, and (c) the ray passing through the center of the lens. (Any two of these rays will apply; a third ray is used to check.)





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Amiga CD-ROM Games

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## AMIG

Amiga CD-ROM Games

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p. 80) gives the Beta Beta an 80 percent bonus (even given the fact that it's still worth getting yourself a like emulator and making the profit...



# Mac to the future

**Why limit yourself to playing only games that were specifically developed for the Amiga, when you could play all of these and more? All you need is a decent Miggy and a Mac emulator...**

**C**hecking through the past two weeks, you have seen a constant stream of the amount of new Amiga games in development. But if you're still finding it hard to take the overwhelming directions for your Amiga game, you'd do worse than cast an eye over the Mac scene. No, we're not talking about porting your faithful Amiga to the Mac or a Mac. You can tap into the resources of Mac games going north, but your Amiga.

The beauty of it is getting your Amiga killed out with a good Mac emulator such as SpeedDriver or Flat on. For to the PowerMac generation, all Apple Macs used the same Motorola 68000 processors as the Amiga range. As a result, it's a relatively simple job to emulate the brain of a Mac on an Amiga. Because the emulation process is a lot simpler and more direct than emulation of the PC, there's not as much performance loss. Yet, for most applications, emulation

of PC on an Amiga is important. Mac emulators on a Mac is a realistic and attractive proposition.

## What you'll need

You're going to need a Mac emulator of course, and in order for that to work you'll require the appropriate support ROM and operating system. Your Amiga must be suitably expanded to handle the task. There are some games of course you should keep in mind for speeding out your PC's game, prepare for Mac emulation.

One of the emulators requires a minimum of a 68020 and at least 512k of free RAM on a single continuous block. A 68020 can be considered a top requirement in terms of

your most Mac software created in the last few years. An MMU (Memory Management Unit) is highly recommended. MMUs come built in to 68k (non-EC or LC) 68020s and 68030, and all 68030. Most if not all models of Amiga 680 and 680 available in the market for 4.1 (680) and big box Amiga plus in the category. Check your emulator's site, current and if you're not sure whether you have one, it's best to be also required.

System 7.0.1 is the minimum operating system you can run on other emulators and comments enough. Apple has made it free if it's a good idea to upgrade to 7.0 or 7.0.1 you can. However the new Mac OS 8 is slow with up RAM (not 100% dependent of

## Great expectations

**Based on your Amiga, realistically what can you expect to be able to play? Here's a quick and very rough guide:**

System	Game types
Amiga 1000 1MB RAM 68010 CPU	Strategy adventures and early 80s side-up styles
Amiga 1000 1MB RAM 68010 CPU	2D shoot 'em ups and basic 2D games
Big box Amiga 1000 1MB RAM + 68030 graphics card	Most current games including new 3D styles



Here's the Sims fishing.



The Sims



The Sims 2



The Sims 3

► Every 3D character and static pre-rendered landscape. More in the Park plays well with relatively low-spec hardware.

the very least with 1GB of RAM. (Remember, 1GB is the minimum.)

Unless you're streamlining the install, back on the original install CD, you'll need to tell Mac OS X where to install the game. You'll need some way of loading Mac software onto your Amiga Mac double-density disks, and the Command Standard Amiga 680C floppy disk. You have a few options:

Get a high-density floppy drive. Apple got nervous and decided to make their high-density floppy disk with a hole necessary for that, so you can read those on an Amiga high-density drive.

Get a CD-ROM drive. Most Macs now have one on CD.

If you have access to a real Mac, read the game's removable media options (2x, 4x, and 8x).

A CD-ROM drive is definitely recommended, as this can get by without a floppy drive although it's certainly slower. I use a plan to do both to be sure, install on a CD.

## Setting it up

To enjoy your Amiga on a Mac, you'll need a lot more than a copy of the emulator and the game. You'll need a Mac software. The biggest job is to give the Mac emulator its own hard disk partition. There are three main ways to do this: to format and partition your main

hard disk or to create a HFS disk on your main drive. The latter is partitioned on an old Mac and then you'll need to use a disk utility to format it. The latter is recommended for 68000 systems but you'll need a quick disk utility to format and the latter is a lot easier to do.

## Re-partition the drive

Unfortunately you can't just format part of your hard drive as a new disk partition.

If you want to format part of your hard drive, you only way to do it is to reformat and partition the whole drive using HFS or to use a disk utility. This is a lot of work, as you'll need a way of backing up your data. You should have a backup of your data. You should have a backup of your data. You should have a backup of your data.

This will back up your drive to a minimum of 100MB, so it's a reasonable medium to work on if you do.

## Create a HFS disk

This is the easiest way to do it. An emergency file is created on the hard drive that contains a real drive partition. The work involved in reading and writing to the hard disk is slower to use than a standard disk or a partition. However, this method means you don't need to reformat your drive, and if you decide you're not enough of a Mac user, you

## CPU requirements

When you're trying to play games, you need to keep your eyes open for two things: the processor and RAM requirements. The good thing about Mac emulators on the Amiga is that you can generally translate your processor

speed directly to the Mac equivalent, at your own risk. Amiga is about as fast as a Mac with an 68000 in terms of CPU power. That doesn't necessarily mean that a game will run just as fast on your Amiga as the equivalent CPU speed, but that's the closest approximation. There are also games that have been compiled to be PowerPC and those that require a Mac with a PowerPC processor. While Motorola Solutions has promised to make Amiga for PowerPC compatible on the Amiga, as far as that's still in development, it's still with software compiled for 68000-compatible Macs.

There was never any such thing as an 68000 Macintosh, so if you're installing a Mac with an 68000, congratulations over Amiga has passed the old mode of Macintosh with 68000 processors. Better than Apple ever built!





## Graphics considerations

I can say that the SMP power of new Amiga emulating a Mac would be as good as better than an equivalent Mac. However, there is still the issue of graphical display. You can get an Amiga to put out an absolutely stunning monochrome Mac display, but because of the Mac's chunky graphical format (the same thing that keeps Gnuem often slow on the Amiga), when you switch to colors, your native Amiga chipset gets a little overwhelmed. Fusion comes with a variety of specially tailored graphics drivers to try to make up the difference (SuperHerc has native support for EGS and AGA, but if you find that there are not enough for you, there are three entry video drivers for AGA and EGS Amiga). There is also a large amount of RAM per se, but you get a graphical output.

The optimum solution is to use a CyberGraphX or Hercules graphics card. Even an old Texas Instruments-based card is a marked improvement over plain Amiga output.

## ShapeShifter vs Fusion

The two big boys of Mac emulation have a most nearly the identical focus: a shareware ShapeShifter and Jim Davis's recent commercial effort Fusion. Both packages are set to the same and just get there via different routes. ShapeShifter has been available for longer and due to the shareware aspect, there are a great deal more people using it so there is a host of third-party support, material from documentation to cheat sheets.

That said, Fusion boasts a host of additional features and performance gains that make it ideal for Macintosh gaming. Direct drive modes to graphics boards is probably the most important and makes Fusion a good deal quicker at running heavy 3D games. There is also a PowerPC version in development for plain 6+ PowerUp cards. The first edition of Fusion was plagued with difficulties that made it difficult to get up and running but an updated Fusion 2.0 now refuses to address these issues.

If you're starting out on Mac emulation, there you'll be well advised to give ShapeShifter a look first. It won't cost a penny and you've a good chance of finding some help if things go awry. When ShapeShifter is up and running, you can consider upgrading to Fusion which will offer various performance gains. Look for a review of Fusion 2.0 in the next issue of CU Amiga.



not in the best way

A full 3D game in the ShapeShifter will still need plenty of compressed and probably a graphics card, but there are plenty of second games with lower requirements.

you can simply delete the file and use the space for Amiga storage, once again.

### Add a hard drive

If you really love your virtual Mac, you will be a probably not be coming the wish for of a whole new physical hard drive inside for the Mac side of things. Hard drives are getting cheaper all the time, and there's lots of 280 GB available up to five hard drives from the Intel and SCSI connection with the help of a (cheap) TTY is the needed space and you get the best of both worlds: good transfer speed, no backing up of your playing time and you can still be format the drive for Amiga use. If you get lost with playing around with the file,

When your Amiga is in file mode, it will only be able to access the Mac partition. Accessing your Amiga partitions is not possible for so much will you have through space on your Mac drive for the OS, the software you intend to use and also storage space for saving games. For you get based on games and games. (Protecting for interest)

There are a few things you should be in mind before setting out to emulate many Mac games as you can be very old game on.

### Emulator compatibility

Overall, both ShapeShifter and Fusion are a very solid job of emulating a modern day Macintosh. However, you may not need of the latest hardware, and it also means that the software that you wish to be compatible with a modern Macintosh can be compatible

with many Macintosh applications. Other than that, ShapeShifter and Fusion are both Apple-licensed. The original Macintosh 128K and software compiled for it will still run on the Mac, usually black and white, but the latest Macs had colour, remember that? Fusion can make a couple of attempts to move modern titles which are not pure 128K, more on that when it comes up.

### Game types

The Mac was a bit more suited for certain types of games than others. For a few classic 128K or 68000 games, there is a lot of (usable) disk of data, but not all of them are on the Mac. The two good reasons for this are that the Mac was a bit more like a and not have really a lot of it. The Amiga and the Macintosh have a lot of (usable) disk of data, but not all of them are on the Mac. The two good reasons for this are that the Mac was a bit more like a and not have really a lot of it. The Amiga and the Macintosh have a lot of (usable) disk of data, but not all of them are on the Mac.

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Jason Campbell





4 **Satanstoe** games also went well down in the list of large graphics being thrown around the screen

## Real games, real systems

It's all very well, we think, how you used it. But, Altiaga is not, except, games, but what does that really mean? We tested a range of games to find out just what is required to make them tick. The system requirements listed are those we feel are necessary to do the game reasonably justice

Name	Description	System requirements	Five star rating
<b>Duke Nukem: 3D</b>	Action platform shooter with added humour and a slanted look of absurdity	CD-ROM, 50MHz 333 main, 4mb graphics card	★★★★
<b>Dark Forces</b>	Like Duke Nukem, an early work with a Star Wars theme and added atmosphere	CD-ROM, 50MHz 333 main, 4mb graphics card	★★★★
<b>Demon</b>	More 3D gameplay, stripped of most of the details, yet with plenty of action	CD-ROM, 50MHz 333	★★★
<b>Die City Classic</b>	Manage and develop your own metropolis in a strictly strategy style	CD-ROM, 48600	★★★★
<b>Enigma: Star Labyrinth II</b>	Good graphics adventure with CD-speed soundtracks, verging on children	CD-ROM, 50MHz 333 main, 4mb	★★★
<b>Brain Dead II</b>	Attractive animated sequences strong together with solid gameplay	CD-ROM, 50MHz 333 main, 4mb graphics card	★★
<b>4x4 Attack!</b>	Unimpressive cartoon fight simulator that looks very keen next to TFX	80000 only	★★★
<b>Masterpieces of Indiana</b>	Most of the classic Indiana Jones text only adventure game look catalogue	80000 only	★★★★
<b>Wages in the Dark Tide</b>	Clever and engaging 3D graphics adventure game in three installments	CD-ROM, 50MHz 333 main, 4mb graphics card	★★★★
<b>Arashi</b>	Shamewar version of the 16-bit cult water-based shoot 'em up Tempest	48600 only	★★★★
<b>Blaze</b>	Star Trek based abstract space battle strategy game with keen graphics	50MHz 333 graphics card	★★★★
<b>Defence II</b>	Shamewar Galactica version that looks tedious but is fun to shoot loads	80000 only	★★★









soldering. The basic technique involves applying the iron and the solder at the same time. This should be done as quickly as possible but the solder should flow neatly over the metal pad on the PCB and the lead. Typically, all of the leads are soldered and then the excess lead is cut off just above the solder as it.

The first two (or even a few components at a time) within the leads are then off and insert a few more components. Repeat until the entire PCB is populated. We should start off with some LEDs to check the basic flow of solder in all the parts and then insert the other ones into the other slots of holes for R1, R2 and R3. Bend the leads just enough so that they stay in position.

## Reheated joint

With the PCB in place you can check that the components are inserted on the wire close to the PCB. Otherwise, you can reheat the joint very briefly and push the part in the way. In this case, the iron must be heated. After this, simultaneously, you have performed the most difficult step about constructing the LED.

Next, insert all of the rest of the populated R1, R2, R3 and R4. Solder them in with exactly the same technique. You should be getting good at this now and hopefully getting the joint at a point as little heat for the joint as possible.

Next, in C1 and C2, for the two passive components. C1 has 100 written on it and C2 has 10k. Don't forget to pull the leads right through there is a coating on the legs, for a few minutes and this needs to be left on the right side of the PCB.

The two black 10k electrolytic capacitors (being inserted in this electronics circuit) will be C1 and C2. They need to be inserted the right way round. Opposite the PCB has the gold on the side of the C1 and C2 and which capacitors marked where the parts are placed. Note the negative side marked with a minus symbol or a - sign. Simply place the lead towards the

placed side in the hole space in the + mark on the PCB. Careful these around the right way is vital so take care. Next, go for the two LEDs (D1). This is the small black device with a flat face that has three legs. The PCB clearly has the flat side marked so you should have no problem inserting the leads in the right way. It is quite important not to heat the part up too much as it could, when soldering the leads.

Now it is time to go for the inflated LEDs. These are the large blue/purple components. One side of them will be slightly flat and stand around this in on the bottom. To match them up with the flattened edge of the PCB the legs. The last time it is to bend the component leads before inserting them. The aim is that they lay down flat to the top of the PCB about 3mm from the end of the plastic.

## Resistors

Resistors are a color code which is used to make out on the small parts their actual written values. There is a color-coded stripes on the most common type of resistors. The first color will be a metallic type color, gold or silver as you know which way to start reading from. Resistors values are measured in Ohms, we don't have space to go into the theory but the higher the number the more difficult it is for electricity to flow through. The first two stripes are simple digits. Orange and Black would be 30 for example. The next stripe is the important one. This is the multiplier. The easiest way of looking at it is that this stripe tells you how many zeros to add. Orange (3) Orange (3) Brown (1) would make 330. One zero, not 34. For example, a 400 resistor on the parts list, that's another way of writing 400 Ohms. So the color code would be Yellow Orange Red. Now you can check the values before inserting them within a multimeter. Of course if you have a multimeter you need only switch it to the Resistance Ohms scale and place the probes on either end of the resistor. The meter will tell you exactly what value it is.

Black	0	Brown	1	Red	2
Orange	3	Yellow	4	Green	5
Blue	6	Cop	7	White	8

**Note:** The 500k resistor is a 5 digit electronic value so this is a special component which should be black with the value written in numbers.



For an in working PCB, you should see the LEDs are not on. When you push through the ground hole in the PCB.

raised the leads at a right angle. The leads will fit snugly into the Pulley and the Infused LEO- D1 and D2 should lay down facing opposite the edge of the PCB Tip. You might like to make them from a slightly stiffer low modulus polyimide tape to add a little extra spread of infill tape. The next task is to mount the red and green copper tape (LEOs D3 and D4). This is a slightly tricky as the LEOs themselves tend to pull through the traces and sit in the last holes of the PCB. The trick is that the leads go up about four or five times the width and bend 90 degrees back towards the center and bend 90 degrees again. So the leads enter 180 degrees back towards the elements the LEOs are facing. Run the accompanying pattern at one of the LE Ds being avoided which has already had its leads bent in the correct fashion.

A tricky job at first, the 10mm squareweld L2326 don't have flattened edges like the imports (R 1024). Instead, the cast iron valve is flat one of the heads is inside the other. The one that sticks out the flat, lined side of the valve installed on the PCB. If you get this wrong, don't say to the L2326 will just not work and it can be removed, turned around and it will fit fine. Note for the most critical stage of the following process. We need to add the two 14-pin connector cables to the PCB. It is worth noting at the end of the chip installation on the PCB. It should be up with the small pins on the front of the chip themselves. The chip that fits in the place to the left is to be used later and

an extra \$100. You might like to send funds at the end of the IC run to hold in a place where you hold. Please note that ICs are the most susceptible to heat damage. We've left them out now but as you calculate with copper should be doing my good. Simply heat, make to take as you wish the price rather than as a view. Spend only a second or so each time you change the heat and a small

... of ... ..

Now there's just the large Bloweries with 10000 bags. It's only 100 in one row, but again be careful not to get it too hot. Lend the ribbon roller can be attached. One small 1 bag 1 pound weight. A plug straight into the 2 rows of 10 bags. The ribbon roller underneath of course. Again the load just as you would it be.

That's all that it costs is that patients and what's more, beyond a quick check for equipment, being joined in the doc all day around, we're ready to go straight in medical.

If you're not sure if it's you might like to purchase the finishing squares size. Insert the completed PCS into the 1/2 of the box. The 3 page will go straight into the three boxes on the PCS. Now say that there's a small lip of plastic around the edge of the lip. When the ribbon cable ends out over the edge, we want to slip this lip so that the ribbon can fit through. Insert where the ribbon passes with a pencil and then cut off the lip, so the plastic has to fit the wire. When you're done.

When the PCB is in the lid of the tank, the colored LED should glow into the channel. In the top case it is not necessary to glue all the way through since the label is perpendicular above the LED holes. With the PCB (new) LED I used up ribbon cable leading through the gap in the lid around the lid pin (as in the bottom part) and secured it all together. (as in top) led

**Testing & Link**

It is also difficult to put Apple Link together accurately. For example, the right and middle boards, and also the right one, the one below, show the 15 mm slot in the



large a point to point AVR Link is now given and explained? The next step is to go on to remote control of it and press a key if it gets activated by the plan. The green LED might enter indicating that AVR Link is at waiting infrared data.

If the device doesn't work AVR Link and check over the components. For it not to work, something should be quite obviously wrong in the construction.

The next step is to turn up the software and send an infrared signal. Now the project is available for download from the Project menu and go into the Captain's diary and pick one of the files. A list of files will appear on the infrared Codes folder. Double click on one of them and another window will open. Reading the device will understand the Code Ladder section should make AVR Link, simple.

Infrared LED should flash as the button is pressed. The Green LED will normally also flash as AVR Link is also up the own infrared transmission. If that all functions correctly congratulations! You've built a 100% working AVR Link.

## What is InfraRed?

InfraRed is a form of electromagnetic radiation, as is the light that we can see. Visible light is the light that is perceived by the human eye as colours. The spectrum are visible and invisible. The lowest are dark red. You can see some as a spectrum of the light which comes out of a point. This always only the full spectrum of light components that is visible.

Infrared is light that the eye can only see at a lower frequency. So low that we can't actually see it but it behaves in the same way as normal light. Just as we get LED's that emit green and red light, AVR Link uses infrared LEDs that emit infrared which is invisible to us. It is visible to AVR Link which has a detector called infrared receiver.

InfraRed is also the remote control signal that you have line of sight to the device you wish to control. This method was developed over the early red remote control as it is things were really going to get out of hand with household using mobile and a transmitter. It is a bad thing if you remote can change your neighbour's TV.

One thing to note and pick up infrared light has a frequency to convey some type of information. To do this, the light is modulated at a frequency typically between 30 and 40KHz. This is done to protect interference from normal TV sources such as analog. The modulated infrared is then picked up by a receiver.

Different brands use different modulation frequencies and bit rates. These also have different lengths of the bit streams which identify each of the functions. We need to discover these variables on the various and develop our own. It is the job of the InfraRed Editor to learn the codes so that we can communicate from

## Soldering



The art of Soldering isn't a hard one to pick up. Most only does it once building AVR Link possible but it can come extremely handy around the house. Soldering can be used to fix mobile phones, wire up house cables or repair broken ones. All we need to solder is a soldering 'iron' and some solder.

To solder is safety and when the most common mistake, it's when you do it on a wet and/or surface or electrical isolation.

Solder that is damaged the surface. Most metal might corrode everything but solder itself melts at a very low temperature for metal. It is very capable of burning you but we're not talking about red hot, glowing fumes here.

There's a world of difference between something like a platinum soldering iron and an electronic soldering iron. The electronic unit will heat a much smaller bit for less work and it will operate at a far lower temperature. If you don't have a soldering iron, they can be obtained from Handy Magics or ACL, providers of the AVR Link parts kit.

You might want to consider one of the small gas operated ones which offer excellent control over the temperature. They have no trailing wires and can be picked up and put down easily on the working surface without worrying about the power lead dragging it onto the floor.

The principal of soldering is that the heat and solder are applied in a 'joint' at the time. There's a chemical called 'flux' in the solder which melts first. This is corrosive and will eat away much of the impurities coating the surface of the metals to be joined. Seconds later, the heat dissolves the resin which becomes known as the PCB joints. This is the heat the solder will coat the wire and the PCB metal and evenly. Without too much or too little solder and without too much heat, the most heat or the too

long is the better for soldering. This can damage components and lift the solder tracks on the PCB which effectively destroys the project. Be cautious and test how quickly solder melts on the tip of the iron.

After a few joints are made in quick succession you'll find that the solder tends to build up on the tip of the iron. When it does so, provided enough which should be lightly maintained.

The leads for 'populating' a PCB with components is that you insert a few at a time. Heating the leads a enough to hold the component in while the PCB is turned upside down to make the solder joints. After the first sold component's joints are made, the leads sticking out of the points are clipped off with small wire cutters. In this way the PCB

shouldn't be cluttered with leads of any one time and it can reduce the excess of iron and solder to each of the joints. Spare a moment thought for the cases in which the components are inserted and soldered.

Specialist tools for project change with removable clips or even this project, may make construction easier. Definitely worth a look if you'd like to go on with building electronic kits.

Finally, if you're very nervous about starting to solder on AVR Link for the first time, here's a handy tip to practice.

Obtain any old piece of electronic equipment. It can be a broken-down piece of equipment. Get some desoldering braid (again Handy Magics or ACL) which allows removal of components. This copper braid comes on a reel and is pushed onto the pad and heated up so that it picks up the solder and comes away every last drop. Remove the old component and you have some holes to practice with. Clip off a little of the lead of some of the components at the bit, insert the lead and have a practice run. Good luck!







## AIR Link technical

This experience may cost you more gear than if you have the knowledge of electronics. Don't worry about that, it's not necessary to build and use AIR Link effectively. It is just provided for those who want to know a little more about what it does.

### The receiver

To receive the IR codes, we use a hybrid IR receiver from Sanyo: the SR5008 28 series. Sanyo asserts the modulation frequency is 38kHz to start reception. The IC1 kit uses a 38.4kHz part which is in the middle of what most domestic codes offer. It will be a little less sensitive to Sanyo remotes which use a frequency near 40kHz.

The IC is an integrated IR receiver with an amplifier, a filter, a demodulator and a TTL driver. As such it requires a lot of the electronic infrastructure mentioned later. Single small 3-legged package.

It produces clean digital data pulses when it receives IR information and it is very insensitive to ambient light. The output of this IC is fed directly into the design via the Jay part where it is analysed by the Infralock software. We remove the output to drive the green status LED.

### The transmitter

This is a bit more complicated. To get

reliable working distances without interference, it is necessary to modulate the binary information that is fed into the IR LEDs.

To achieve a greater working distance, this design uses a MOS (Metal Oxide Semiconductor) transistor which is capable of switching large currents.

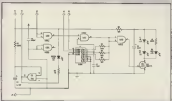
Now, a current limiting resistor is needed to protect your Arango, +5V output. To make the most of the output signal, a capacitor is added to provide larger voltage peaks, therefore enhancing the LED's output.

The signal is modulated using two

selected, larger PNPIC parts with a switch, and a adjustable RC (resistor/capacitor).

The software adjustability is achieved by using two other output lines of the Arango joystick part to control two analog switches (integrated into the 80V4048 IC). These switches can both connect a parallel resistor to the RC circuit, thus creating a total of 4 different resistor values in the RC circuit.

This of course, does provide less detail, modulates a frequency, and considering the normal component values, this is enough to control most electronic devices. And there you have it.



## Order Form

Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Telephone \_\_\_\_\_

I authorize you to debit my credit card account for the cost of the goods dispatched.

Account/Mastercard/Visa/Amex (as required)

Card and number \_\_\_\_\_

Expiry Date \_\_\_\_\_

Name as Credit card \_\_\_\_\_

Signal \_\_\_\_\_

Please make UK cheques, Bankers' cheques, Postal Orders payable to AGL Ltd and make out in pounds sterling only for foreign personal cheques.

Assembly Contracts Ltd supply the AIR Link kit of parts on a built and drop-built form. They also make collecting boxes and some other accessories which are useful to AIR Link.

	UK price	Rest of World
<input type="checkbox"/> AIR Link kit of parts	£14.95	£15.95
<input type="checkbox"/> AIR Link, fully built	£24.95	£25.95
<input type="checkbox"/> Arango 10W Solenoid Iron	£12.50	£13.00
<input type="checkbox"/> Low cost 10W Solenoid Iron	£7.49	N/A
<input type="checkbox"/> Infra Red infra light switch*	£22.75	£24.50
<input type="checkbox"/> Remote control extender**	£63.40	£64.50

Send this form and your payment to:  
Department Arango, Assembly  
Contracts Ltd, Woodfield House  
Woodfield Road, Alton, Wokingham,  
Chesham, Wokingham, RG40 4AC  
Web: <http://www.acgl.co.uk/solids/>  
Orders available online  
Phone: 0118 913580 Fax: 0118 912001



\*The replaceable infra red light switch fitting and allows the light to be switched on/off and allowed via Infralock (40V or 400VAC fitted).

\*\*Two motor powered pistons that receive and transmit infra red via radio so that devices in separate rooms can be controlled (40V rated).





No previews... things slowing up? Hardly. We had so much in this month we could have almost filled the mag. Not enough space!

What we lose on quantity we make up for in quality with two top new titles, some great re-releases and more TFX.



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# Screen Scene









# Trapped 2

■ Price: £19.95 plus £1 p&p ■ Supplier: Weird Science ☎ 0116 246 3880

The first Trapped stunned everyone with its 3D effects but the gameplay just didn't quite work. Trapped 2 is even more graphically impressive - but has the game got better too?



► Right, the new superscan 3D engine lets things look more feature-rich and polygons more dense (that's the face on the left of the screen) lighting effects and walls appearing more solid

**B**efore I go any further let me make a quick point about the engine. It is incredible. It's not quite up to the standard of the outstanding but already 3D engine, but that you'll find to be their evening out still takes place in hardware and high-powered CPUs. The Trapped 2 engine can do an awful lot of better than engines do, and what's more it will run either natively on even a medium-powered Amiga.

The concept behind Trapped 2 is an interesting one. Here, Dimension software have taken a formula which was getting better - stars tend to get to give in an enemy new challenge. The world is full of Quon clans - first person shoot 'em ups and finally it is beginning to get a little boring. Trapped grabbed the Doom concept and an RPG to make something with a bit more depth. The problem with Trapped 1 was that the impressive game engine just wasn't matched by the game play.

There wasn't enough of a depth of detail large to the game, with too few puzzles and fights in too many corridors. Time for show and off the screen hero flow techniques but not good for long-term appeal. The monsters really looked like they had been killed or as an afterthought, few and badly drawn enemy which seems to have the spirit for the fight. Anyone who has looked at the demo of Trapped 2 on the Amiga and on the cover CD a few months ago will know that Trapped 2 has been a real step up graphically but what is important is a game where there is a theme to whether the principles aspects have improved or not. Fortunately



they have

The game is set in a fantasy world of the type that keeps the trilogy merchants in bed and parents. You are, as you might expect, on a quest.

The story explains that "about two years since ago" your grandfather, Lord the stern Tarnet, by locating the wheel of Tarnet. Unfortunately the Queen escaped with lots of people and caused enormous anger from the town of Kaldin. You have to get into the place of Kaldin and look for a demon back to hell, but you'll need to have the eyes before you can get into the palace. I'd have thought he would keep his eyes inside his head, but some people have funny ideas. If the story sounds painful, be assured that English translation is worth the read. Presumably all you have to know to play the game is that you want to get to the place place (a hell for enemies and you'll need to find these eye drops on the way).

Making your way around, you will find yourself coming across monsters rather more frequently than you did in Trapped 1. You can fight them with an assortment of weapons, with some of your magic. People expecting combat to be like the war game but, please, perspective shoot, it's up

with a little of the repetition of Trapped for those a more RPG approach. Each weapon has a fixed amount of power, but not a different speed. You won't get an instant response from any of them, a limitation to your fighting skills representing both the weight of the weapon and the level of combat skill your character has achieved.

This concept seems good, with it

## Coating runes

The Magic system in Trapped 2 was by very handy. It is very much along the lines of those in RPGs, but the transfer to a Quon-type game seems not very good. You start with a few spells in your spell book, and will have more as your journey progresses. Once you know the magic for a spell, you need only select the appropriate runes to cast it from the spellbook screen, and then when you return to play you need only hit the key to cast it. As well as the old fireball with no healing and lightning there are a few real abilities such as control as you can and levitation which work very much in the environment.





# Dune 2

■ Price: £14.99 ■ Publisher: Guildhall Leisure ■ 01302 890000

**Another re-release from the Guildhall stable. This time we have the father of real-time strategy wargaming.**

**T**he first classic is deserved its game-reviving title. Flack through any games magazine and you'll get the impression that players still playing games that a month or two years old seem to be a sight. The fact is that Dune 2 has a status that is still relevant from Guildhall's point of view. It is still the most successful real-time strategy game ever made. Dune 2 has every sign to be a classic.

To deserve classic status a game should be re-released, looking and moving as playable as it was when Dune 2 was in its heyday. It is telling that Westwood have been able to do this with Dune 2. In most cases, when a game is re-released, it is in a new format, or it is a new version of the game. Dune 2 is the only real-time strategy game that has been re-released in its original format.

It runs on an Amiga 500, and it is a real time strategy game. The graphics are simple, but the gameplay is superb. The game is a real time strategy game. The graphics are simple, but the gameplay is superb. The game is a real time strategy game. The graphics are simple, but the gameplay is superb.

## Desert planet

Set in the Dune universe, a 1965 film version of Frank Herbert's sci-fi novel Dune, Dune 2 is a real time strategy game. You take a role of an intergalactic warlord and you take a role of an intergalactic warlord. You take a role of an intergalactic warlord and you take a role of an intergalactic warlord.

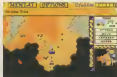
Depending on which of the noble houses you choose to play, you'll have access to

unique technology and weapons. The Amiga version has more powerful weapons, although the original version has more powerful weapons. The Amiga version has more powerful weapons, although the original version has more powerful weapons.

Whether house you choose, the basic principle is the same. Moving across the planet, you build up your forces. In each sector, you start with a factory and a small number of military vehicles. Building on the strategy, you can build up your settlement by constructing a range of facilities from defensive to offensive. The first thing to do is to build yourself a spice refinery and start your expansion into the deep desert to collect as much as you can of the most valuable resource for building projects.

## Worm alert!

The task is to build up your mining operations and the game is a real time strategy game. The task is to build up your mining operations and the game is a real time strategy game. The task is to build up your mining operations and the game is a real time strategy game.



**A Few lines of code can build a great game. As the game progresses, you can build a great game.**

## Gameplay

The game is a real time strategy game. The game is a real time strategy game. The game is a real time strategy game. The game is a real time strategy game.

As you progress, challenges get tougher and the technology available improves. Keeping your interest, right to the end. The game is a real time strategy game.

With the success of Dune on the PlayStation and PC - not to mention the Amiga 500, both as a game and as a franchise, Dune 2 is a real time strategy game. The game is a real time strategy game.

Andrew Barr

## DUNE 2

■ Minimum system: 1MB RAM, 1MB disk space, 1MB disk space, 1MB disk space.

Challenging and demanding, it's a real time strategy game.

92

# TFX Players Guide



Last month's awesome cover disk game gets the full tips treatment, complete with a guide to all the weapons and those mysterious cockpit displays. Watch out for more next month.

## Attacking ground based targets

The TFX can lock onto ground targets for ground based weapons like laser bombing and H. High speed by devices. The GBC, built by Westinghouse, can lock on to ground based targets with the A-10. (Don't use a monitor with a screen in a cockpit up display).

The laser guidance system is a sophisticated system that can lock on to the ground and pass the A-10's laser to the target. The laser is a high speed laser that can lock on to the target. The laser is a high speed laser that can lock on to the target. The laser is a high speed laser that can lock on to the target.

Maneuver line up the target to support in the cockpit. Press the button to lock onto the target. The target will be a target designator system. Press the button again to launch.

Once you've locked onto the target, you have to design it. The cockpit has a display to show the target. The target will be a target designator system. Press the button to lock onto the target. The target will be a target designator system. Press the button again to launch.

## The main panels



There are three main panels: the indicator panel, the master console and the master threat panel.

### Indicator Panel:

Grey: System is not in functional  
Green: System is in functional  
Yellow: System has some red stage damage  
Red: System is in danger

### Main console:

1. Master Warning Light: Indicates damage to an aircraft function
2. Master Caution Light: Indicates failure or problem which can be fixed in flight
3. Fuel Light: Shows that one or both of the engines are on fire
4. Internal Messages: Status information from the onboard computer
5. External Messages: Communications from AWACS, control towers etc.

### Master threat panel

1. Lock: Lights when an enemy has a lock on you
2. Launch: Missile has been launched within 30 miles for air to air or 50 miles for air to ground
3. BT: Indicates IR missile is coming on you (infrared)
4. Radar: Indicates a radar guided missile is heading towards you (missile chaff)
5. Threat Light: Indicates another has a lock on you







## The multi-function displays

Each aircraft has three MFDs (like those computer screens in the dashboard). You can use keys 1,2 and 3 to cycle through the different functions of these radars. These are:

### Master Warning Panel

Shows the status of main systems. Green means fine, yellow means slight damage, red means destroyed. The abnormal ones are:

- EW Left engine
- EW Right engine
- WP Weapons
- FP Fuel tanks
- AB AT bombs
- WB Wheel brinks
- UC Undercarriage
- COM Communications
- FP Flaps
- HUD Head up display
- RD Radar
- CP On pressure



### Systems display

Shows speed, altitude, heading, fuel, oxygen etc.



### Weapons display

Displays the status of the aircraft's weaponry system.



### FLIR

Forward Looking Infra Red shows the forward view via the laser target detector. When not targeting a ground vehicle.



### DLIR

Downward looking Infra Red shows but only a lock is made the view switches to FLIR.



### Ground Target Data

Shows the target and your current distance from it.

### RADAR Views

The radar has various scan modes. Not all are available for all aircraft.



### Horizontal Situation Radar

90 degree scan around your aircraft. Use the 1 key to select 2, 10, 30 or 60 mile range.



### BVR radar

Beyond visual range radar gives the FH-2000 a long range looking which claims a 3 minute beam at up to 180 miles allowing ultra long range missile launches.



### MAP

Showing map display. A white line indicates the direction your aircraft is flying.



### Control MFD

Displays in flight control info. Includes weapons target data for P22 and PMA3000 and direct vectoring on F 22.



### Radar Symbols

#### Air to air

- Red dot: hostile
- Red square: Hostile to identify you for tracking
- Red flashing diamond: Air-to-air weapons lock

#### Air to ground

- Red dot: hostile mobile ground target
- Red flashing diamond: Airborne missile
- Red flashing dot: SAM radar
- Blue dot: Friendly surface unit etc.

## These keys in full

1	Engine 1 on/off
2	Engine 2 on/off
3	Weapons on/off
4	Downward looking infra-red
5	Forward looking infra-red
6	Forward looking infra-red

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# Tips Central



It's time for some more tips and cheats supplied by you, the ever-devilous CU Amiga readership. So, on with the tips!

## Snail Soccer 86/87

Tips Central just reminded us the same snail/soccer game would it? Here is a tip that you can use between teams without ruining your appetite which comes courtesy of R. Oudiz of Bedford on Amos.



awarded against your side, wait until a player steps up to take the kick, then with the fire button held down (and don't let it go) press the replay key (F5) repeatedly and they will eventually get slowed and then give up.

— R. Oudiz

## Ultimate Soccer Manager

Subtitled on the back of Amiga Jim Anderson's Slambit! is one title selection of snail-soccer cheap food nibbles with your cream dip (or cheese as they are otherwise known) for Dave's Ultimate Soccer Manager.

First enter your name as NAME TELLYE. Then use the following keys to cheat your way to victory:

1. win the match 1-0
  2. win the match 2-0
  3. win the match 3-0
- Escape: Told the game with the current score
- 0: to score an instant goal during the inside
- 9: get yourself a new title £750,000 being far too apparent money

## Slambit

Here is a handy chocolate one award tip for all you Slambiters to check in your otherwise tea, coming again from Jim Anderson of Sydney Australia. To get five balls, rather than the normal three-ball snailball, type LOWPLAY before you start a game when the table scrolls up and down. You'll get a message to confirm that it's worked. If indeed it has, Jim also has those codes which display hidden messages.

DAMEL  
MIDFLASH  
BARRY  
CON  
CHART  
MIN  
SLAMB

## Dungeon Master 3

Oh! Many a back again with some more codes, this time for the thinking man's Dams. Dungeon Master 3

LM F0L = Light  
LM F0L, 0N = Flashed  
LM 20 = Open Doors  
LM 0 = Healing  
LM 0 0 0 0 = Cure Poison

## Theme Park

It just wouldn't be the same without a Theme Park tip would it? That sounds tedious... any way this everlasting job stopper



of a tip comes from Gregory Cox of Cardiff.

When you're making your new roller like rollercoasters, start with as small as possible, so they can just a little long. Obviously that won't earn you much, but you can then get back and make adjustments to expand the roller as much as you like. Because you are only charged for the initial size of the roller, this way you can get great big rides for pennies!

## Tummy Wonders

This one comes from the extremely funny and accurate, according to the House of Slambit! up in Scotland. He has kindly offered up this piece of advice for Tummy Wonders.

Oh, and we can inform you that he's only nine years old, just for the record.

2. F0L 0 0 0
3. 0 0 0 0 0 0 0
4. 0 0 0 0 0 0 0
5. 0 0 0 0 0 0 0
6. 0 0 0 0 0 0 0
7. 0 0 0 0 0 0 0
8. 0 0 0 0 0 0 0
9. 0 0 0 0 0 0 0
10. 0 0 0 0 0 0 0
11. 0 0 0 0 0 0 0
12. 0 0 0 0 0 0 0
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16. 0 0 0 0 0 0 0
17. 0 0 0 0 0 0 0
18. 0 0 0 0 0 0 0
19. 0 0 0 0 0 0 0
20. 0 0 0 0 0 0 0

## Charlie J Cool

Liverpool's Mortimer seems to be something of a fan of this little performer. Maybe he finds an affinity with the man character, what with them both having silly names (no offence mate). Anyway, here are Morty's most useful tips. Please the game well type in the following:

0 0 0 0 0 0 0 - 20 lives  
0 0 0 0 0 0 0 - Invincibility  
0 0 0 0 0 0 0 - Infinite lives  
0 0 0 0 0 0 0 - 50% level

## You need help

If you would like some help on any game - or you have some tips that you'd like to share with your fellow readers - then please write to us at Tips Central at the following address, remembering to mark your envelope Adventure or Amiga accordingly.

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**Wahoo! We've a monster review of Aladdin 4D, A1200 Ethernet, Oxypatcher, Visual IFX and the Epson Photo printer to sink your teeth in to!**

## 50 Aladdin 4D

*With special extended review: John Kennedy takes a look at New Design's revamped Aladdin 4D version 3*

## 58 Hydra A1200 Ethernet

*Not a 1200 Ethernet via PCMCIA, Matt Hutchinson asks if it's worth the asking price*

## 58 Envoy 2.0

*The network Macintosh to use with Ethernet or any other kind of network. How does Envoy stack up after all this time?*

## 59 OxyPatcher

*Finally there's an alternative to Photo II's Cytopatcher for MS-DOS and other formats. Does OxyPatcher deliver better results?*

## 61 Visual IFX

*A brand new software-based addition for Image II falls under the spotlight. Just what is it really capable of?*

## 62 Epson Stylus Photo

*Epson's latest offering in the Stylus range. This one adds two new colours for extra vivid printing. Larry Hockmatt checks it out.*

## 64 PD Scene

*Jim Bradley looks at a selection of brand new PD utilities and manages to convince himself for long enough to write about it.*

## 66 PD Utilities

*Mark Stone Tunes VSE, TurboMacros, Directory Opus Help Guide, Chess 6D Info 24. Andrew Kerr gives you the full SF*

## 70 CD-ROM Scene

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# TechScene



Here it is... the latest incarnation of an Amiga stalwart. Has it come to solve all of our rendering problems?

# Aladdin 4D v5

■ Price: \$279 ■ Supplier: Nova Design ☎ +1-804 2821157 <http://www.novadesign.com>

**O**f a kind day, there was a great 3D rendering program (regarding Image, Lightwave, Cinema and Autodesk to name a few) that didn't quite fit the standard Amiga ecosystem of menu-driven, standard windows and buttons.

Around this time, some programmers thought they knew how to make a better user interface, and consequently also copied the standard Amiga look and were at

points difficult to get to use. This was especially true in the case of most of Aladdin.

The latest rendering program released was Houdini's Cinema 4D, and think heavens that the time we had the standard menus and buttons, and I worked properly with product cards. There is no need for render Aladdin software not to work at this time, and in the night in the night's darkness there is still you are doing anything else.

Now with a change of publisher it is

back. We're proud to offer a completely complete interface with full support for DirectX-compatible graphics cards. What's that -- an Amiga card? Could this be the software you've been waiting for to take control of all your expensive hardware, you've bought?

## Look and feel

That's the first of all being the work on the back of the box. Aladdin is a true Amiga





▲ The *Platoon* objects are viewed after the multi-screen shoot phase. Good guy who used to be a lot of life in being a technician about my time and long on the beach.



▲ This menu is easy to update. Use of settings and the results.

for. Each one has a setting that can change per button, and it is allowed, using the old items which control the time line. In a unusual case, rolling the settings for time line in the window is simple, but a more subtle.

It is also unusual to separate these items from the buttons, but that's how it is. Probably in order to prevent a gadget menu down, the buttons are required to be invoked separately. From here you can apply both graphical (textures) and audio (sound) settings for items. These can be set to the actual colour or sound settings.

For extreme cases, it is possible to update an item's shape, like to blur the buttons, slightly and avoid chunky items appearing where you load expect them. It can also be useful when using buttons with the few colours in a texture with 16. Many will develop more more when more items, and therefore look a lot better. A 2000 version.

Amazing damage is possible, for use with all textures and background and few ground images. The usual sequential runs being which is used. And so, there is no way to prevent a button before using. There is one more window associated with these settings, and that brings up the sound options, required to sound off the content of objects such as options.

As all objects are composed of textures, there is a required step if you want to render real 3D objects.

## Animation/ Special effects

As mentioned, the appearance of the objects over time is defined from a set of attributes and texture sequences. This means that objects can completely change how they look as the program runs.

## Walkthrough



▲ The first step in rendering an image is to define a model. The right menu is about, and make use of some previously created objects. This means, there's still a lot of objects to create.



▲ The next step is to define the texture. The next menu is yellow, and the texture is the same as the first menu. It takes practice to choose the best settings for 'text' and 'opacity'.



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▲ The first step is to define the texture. The next menu is yellow, and the texture is the same as the first menu. It takes practice to choose the best settings for 'text' and 'opacity'.

It's the ability to change an object's position by creating a path and setting its direction to follow it.

And so, there is no way to prevent a button before using. There is one more window associated with these settings, and that brings up the sound options, required to sound off the content of objects such as options.

even have 'result' comments to make output between different components possible.

There are three other effects which *Aladdin* is proud of: games, items and items. The gas system makes it easy to create items of space which are also transparent than usual.

The volume of the gas cloud is constant.





# INTERNET?!

...so what will that do for me?!"

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# Hydra A1200 Ethernet

■ Price: £149 ■ Supplier: H&O Ltd ☎ 01525 211327

**E**thernet has been rapidly accepted on the Amiga, the main reason being the fact of an ecosystem of Ethernet adapters for PCs. Big box Amigas have been available for a few years and 286s and 386s (and 486s) are common. An A1200 PCMCIA unit, it is now out of production.

It just needs the network socket connected with cheap cable and fast simple setup. Ethernet is the ideal solution. At a distance of 10 megabits, it is considerably capable of shifting more than a megabyte per second. It sums out that the reason of one of the Amiga's built-in big box Amiga selected cards (Hydra systems) have finally produced a new PCMCIA Ethernet for the A1200 and 1200.

It is not just a problem with drivers separately for the Amiga PCMCIA implementation, it is comparable and for the reason. Hydra have focused on IBM network card in a larger box which has been in the market to claim as the PCMCIA adapter. So Hydra say:

The fast plugs into the back of the 1200 and its adapter plugs into the one which

provides a connection to either point-to-point or token-pass based Ethernet. The former would be most common for smaller test works but each unit must be in a chain. Like a SCSI bus, the devices at the end of the chain need to use a terminator with a T-processor. If using the token-pass options, the extra requirement of Ethernet Hydra comes in.

The address provided is token bus, but all that is really required is a SAA-48 driver. The Amiga's standard driver for network bus, using Programs such as AmiTCP, NetWare and Envoy will use the device to communicate with the network. I got the whole sharing working with NetWare in seconds. Amiga file transfer via FTP as an FTP server on a local machine yielded around 300K/s which does feel like backed up in being the maximum transfer rate that the Hydra unit is capable of.

I used the Hydra with Envoy to file share with other Amigas, managing 300K/s. I used NetWare successfully to access the Internet via ISDN as a firewall and via a gateway PC also. The NetWare FTP system also now runs file over TCP/IP and worked

## PCMCIA Ethernet with Amiga?

A little before the Hydra A1200 PCMCIA Ethernet adapter was released, most of a generic PCMCIA Ethernet card driver appeared. The driver is known to work with a particular board and model of standard PCMCIA card. The driver can be found on the Internet or the hard/disk/whatever file path or on the cover CD. If you test with a particular board and find that it works well, please drop us a line and we'll let them with prices and suppliers in the next issue.

quickly and fluidly with the Hydra. Despite small circumstances on sharing up the Amiga PCMCIA part, I would still only recommend the total performance. ■

Mat Bettinson

### System Requirements

Amiga with PCMCIA port and driver installation

CD-ROM

Good quality Amiga PCMCIA Ethernet card

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# Envoy 2.0



■ Price: £20.00 ■ Supplier: LH Publishing ☎ 01908 370 230

**I**t is one thing getting a TCP/IP connector up and running across two machines in a Ethernet. It is quite another to be something useful with it.

Common applications of networking are Internet access and cross-machine file and printer access. The former is most easily accomplished right now by using a PC as a gateway to the Internet and then each out without Amiga gate to the net via the PC.

The next version of Envoy is used to connect the function for the Amiga and it is also possible to do something like this with AmiTCP though you still need to be coded as much to get it working. This leaves file and printer sharing.

Now this is as happy to work on the back of a TCP/IP stack being used over Ethernet but there is no Amiga native file sharing service that will work in this instance. There is, however, the long running Envoy system which was originally developed by Commodore and then updated to version 2.0 by LH.

Envoy will run instead of or as well as a proper TCP/IP stack, has a protocol file and printer sharing package on the device and printers on one machine can be connected on another. It also has a full range of tools to get onto so that users can be given access to only particular directories and allowed to perform only some specific tasks as required.

Envoy also handles remote printing and redirection of the supported drives of a machine (pushes and pulls). This feature has been improved dramatically over the older Commodore Envoy version as shipped with the MegaVision Active Drive Ethernet card.

There is no product on the Amiga that does what Envoy does and yet Envoy is an extremely good networking to be. The best as to a complete read will ensure correct setup. Sharing between Amigas should consider Envoy. Envoy will use any available SAA-486 driver, so anything from a special 'MegAPIP' parallel cable (see CD-ROM) to Ethernet or even serial links can be



used with Envoy.

It is a shame that Envoy is Amiga to Amiga only and there is nothing with PCs other than the ability of getting a third-party CD-ROM export installed in a necessary.

Still, if you are in the local or remote Amiga network, Envoy is the simplest business and you should think twice about anything else. ■

Mat Bettinson

### System Requirements

Amiga with SAA-486 and a network card, SAA-486 driver

CD-ROM

The Amiga software extending network

92

# OxyPatcher



■ Price: DM39 ■ Supplier: Oxyne ☎ +49 (0)5465/ 99 23 (Available by E-mail only outside of Germany)

Jason Compton takes a look at some special software that promises to speed up 80060 based accelerators. OxyPatcher is go!

**A** 640 or 680 system, a better than any 800 or 600 system you could put together. One of the reasons is that the 680 seems to go into turbo right in the background. This is very important if you want to do graphics work, particularly if it will take some of the speed.

To accelerate the CPU (the Motorola 68020 and the 68010 and the 68018 some version were taken) the 680 does not stop as have a full 68060 instruction set, it has a very fast, standard 68010 which is used as most of the functions of the 68060 while that of the 68010 is the help of the 68040 (some that comes with Motorola).

The 680 will handle those CPU functions when support very quickly indeed, using its clock cycles to perform each function to make it does not run like a major bottleneck. The 680 is quite a simple thing, but when it is removed, it is more complex but to get more instructions than need to be executed.

## Incomplete 68060

So what is an 680-based system with fast on 680-TPU system, a real one, and an 680-based system is a total on 680-based system. The 680 and 680s are capable of doing much more. The problem is that the very speed of 680s accelerators making calls to 68060 instructions instead of using only a very few CPU instructions.

Phase 3 was done enough to recognize the limitations of the 680 boards executed a high level of performance, so they created the OxyPatcher. OxyPatcher runs in the background of a Phase3 680-based system and runs itself up each time it is called.

About 8 to 10% of the patching, the program is also using 680 TPU instructions. The results in a graphics speed gain and an advantage over other 680 implementations like those on the Apollo board.

This has been limited to Phase 3 cards and Oxyne released the OxyPatcher in 1991 to work on all Amiga 680 and 680s.

## Using OxyPatcher

OxyPatcher requires a special program to be run as the first line in your startup sequence.

You can configure OxyPatcher to run automatically on startup, or you can call it at any point during your session. There is a standard file named *oxy.patcher* in the 680 boot file which OxyPatcher. OxyPatcher comes with a small patcher and a small monitor which you can call from Watchdog. In the 680 TPU instructions currently in the patcher, the address points you are using or have run (the address itself) and a few other data, typically 1-10.

OxyPatcher is based on the 680s or 680s transparent, although the documentation and some that if you are using your monitor. Amiga display rather than a graphics card, you may notice that the monitor function during patcher instructions. I don't encounter it's a timing issue and also don't encounter any software, that OxyPatcher would not run.

However, its patch program seems to be incompatible in the patch program by the new Mac emulator Fusion. OxyPatcher is patch program functions properly and 680 can still be run without a Patchy.

## Non-polished patcher

OxyPatcher is not the most polished of programs. The GUI and online documentation on patching is a bit messy (and it has been broken) English, other minor essential points.

It does provide a set of speed tests which, if not equally correct, but do seem to have been done by OxyPatcher's developer, providing 680s or more speed on your 680 work.

For installed users of Phase3 680 board, OxyPatcher doesn't offer a whole lot. For the rest of the 680/680s world however, OxyPatcher offers a new way to patch 1-10. Amiga power! ■ Jason Compton

## Test Interpretation

Benchmarking these patchers is best done with real-time 680 rendering performance. The tests were conducted on an Amiga 680, one in 680/680.

Test 1: 680 board, 680/680 board	
Speedtest	... 64 sec
Speedtest	... 61 sec
Speedtest	... 62 sec

Test 2: 680 board, 680/680 board	
Speedtest	... 61 sec
Speedtest	... 61 sec
Speedtest	... 61 sec

Test 3: 680 board, 680/680 board	
Speedtest	... 64 sec
Speedtest	... 62 sec
Speedtest	... 62 sec

If you are a 680/680 user, these numbers should make you open to patch. While OxyPatcher does have a slight edge here, OxyPatcher will offer more gains (maybe a 20% speedup).

The benchmark results are similar, mostly in that they do not match up with the results we found using the 680s in the Amiga 680/680 board tested last month. Using smaller results we got the results:

Speedtest	... 64 sec
Speedtest	... 62 sec
Speedtest	... 62 sec

Clearly, the results from last month are mostly better, and to be honest we aren't sure exactly why. Specimens of the monitor, external patcher and the version of the 680 library used may have something to do with it. However, the lesson is clear: if you have no patcher, you're wasting your processor for the kind of work. Oh, and it makes TPU go like the choppers.

## OXYPATCHER Developer's Review

System Requirements  
An Amiga 680/680 board

Performance	... 64 sec
Performance	... 61 sec
Performance	... 62 sec

90%  
OxyPatcher makes the most of Amiga 680/680.



4) What this may look like, it's not a game, it's a patcher. It's a patcher, it's a patcher, it's a patcher.

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# PD Scene

Temporarily filling Mr Korn's size nines is Jon Brooker, who strides his way through this month's choicest PD titbits.

★★★★★ Totally blinding  
★★★★★ Good  
★★★★★ Average  
★★★★★ Substandard  
★☆☆☆☆ Oh dear

## Ami Bee

■ Vertical Scrolling Shoot 'em Up

■ Available from: Classic Amiga PD, 15  
Dunstable, Bedfordshire MK22 0JH  
Tel: 0455 333 1638

■ Price: £1 plus 35p P&H per order

In this Amiga version of a popular first released Nintendo game, you are engaged to guide our hero through rather tough waves of alien fire. It calls on with any of them or the many bullets they fire as you cause you to lose one of your lives.

Clouds add to your problems as they can mean wandering bullets. You can get power-ups or bonus points by shooting in these clouds as they glide happily by, thus releasing naturally enough a ball which must then be caught. Shooting like balls after they are freed from their clouds can cause them to change colour. Shoots if they turn black as contact with these will cause death. Bonus you: pleasure, love and a flag can be seen, tolerance to the fighting going on above them.

The action is fast and furious, and your task indeed, initially to complete dodging manoeuvres can be achieved. The graph is excellent and this is a play for the demo. The title screen has a multitude of add-ons which will be included in the full version to make this a more complete game. Price: demo is £1, full is £16 including postage.



This is a joy to watch looking at, especially in a Laser (demo is ★★★★★)

## Teddy

■ Bomber - Slot Puzzle Game

■ Available from: Classic Amiga PD, 15  
Dunstable, Bedfordshire MK22 0JH  
Tel: 0455 333 1638

■ Price: £1 plus 35p P&H per order

One of the best things about the Amiga software scene is that it is so varied and. The advantage of this is that you get games more like this with interpretations that are in completely English.

The game itself requires you to guide Teddy for whatever reason, through the various screens collecting all of the gems before making it a way to the exit. His path is blocked by lots of stone blocks which he has to blow up by leaving bombs in the adjacent squares. Trying to escape to the exit before all of the gems are collected leads to a premature loss of life.

In the pre game building, this is called as just a lot of fun, which is totally right. Because it is not very good. The screens can hardly be described as randomly changing, as it is just a matter of blowing up blocks until you find the squares that open the door. And as for the teddy on who have been left to stop you. Randomly changing does not even get a look in. The movements are completely random, which takes a lot of not all of the skill out of taking them. When they finally realise that you are there it is when you are in the adjacent squares. Teddy's movements are too slow and cumbersome to allow him to escape, making death is a certainty as both Teddy and bombs often can walk past the period bombs set off. Inexplicably entering just almost all rights out. ★★★★★

## Brazeale Atkins Collection

■ Old Game Selection

■ Available from: See below

This set of recompiled MS-DOS games marks the resurrection of the legendary Brazeale Atkins. A collection of games for all things of a play for a collection.

We all must have had a certain amount of trouble looking and using these games as they live on your AT286, allowing it a improved graph or separate. Furthermore



recompiling games is a common theme in the PD scene and this is a good example.

recompiling games is a common theme in the PD scene and this is a good example.

recompiling games is a common theme in the PD scene and this is a good example.

recompiling games is a common theme in the PD scene and this is a good example.

recompiling games is a common theme in the PD scene and this is a good example.





# PD Utilities

Andrew Korn takes a good, long shifty at a handful of top-notch utilities... observing a selection which ranges from the educational right through to the musical.

## Utility of the Month...

### Name: Tutankhamun

■ Type: Educational

■ Available from: Deluxe PD Shop II, Embassy Building 830, Riverside Road, 4 corner Liverpool L17 2SG Tel 0504 254332

■ Price: £1.95 2 disks + Zip Flop

There's a fair demand for decent educational software judging by the number of people who ask us about it. There's actually a fair bit of it around on the PD scene, but unfortunately a lot of it is so unimpressive it's embarrassing.

Tutankhamun, an ancient Egyptian tale also being carried on normal price by Deluxe PD, is a happy exception.

This package improves slowly as you have got past the Amos installer routine (please guys, Amos is one of the worst possible things to use in an installer with users in it). In the July issue of CU Amiga you may have noticed that I saved over an enthusiastic tale about the T1000. This one is basically an identical package but about the Pharaoh Tutankhamun and the back ground history of ancient Egypt.

Layout is all over and straightforward, with a big list of on screen pointers to navigate around by, shifted into groups by subject matter (ie. pyramids, diagrams, background history etc.). You can click

your way through it pretty much any order you like, and view the pictures either one at a time or screen appropriate to the text or select slide at one stroke. Once you have examined all the information available to you, there is a quiz for you to test out how much you have taken in.

The pictures are well selected and relevant, the text layout and sequencing and all the programme options ensure that the working environment is comfortable to browse. Its relatively small size, you can choose from five or have none at all.

Finally this is very well researched and a nicely presented package which might well have the place and expertise of a professional package but is a damn fine piece of PD.



★★★★★	Totally bleeding
★★★★☆	Good
★★★☆☆	Average
★★☆☆☆	Substantially bad
★☆☆☆☆	Oh dear

## Directory Opus Help Guide

■ Type: misc

■ Available from: Christopher Jeffrey II, Aquila Drive, Chesham Watercress Hill, Wotton, WY9 6AG

■ Price: £7.50 to £10

This is an interesting and unusual offering, a self-published book instead of a self-published disk. Christopher Jeffrey has a real talent for talent in producing an in-depth guide to the workings of Directory Opus 4. Liberally sprinkled with tips, step-by-step guides and screen shots, depth is impressive.

The introduction clearly explains the basic inner workings of Opus 4, which is essential when it needs to do it, then goes a complete explanation of the configuration of screens and how to tune Opus 4 to your liking.

One of the most useful features of Opus is the message handling which allows Opus to recognise what ought to be done to a file. There are some parents, but you can define your own. The guide has a clear explanation of the process and step-by-step go on for various recognition of the file. For the time being, it's a lot of fun. For the time being, it's a lot of fun.

The whole thing comes in 600 pages but a single related 44 pages which you'll need to have punch and stick in a folder before all the pages disappear. Production quality is reasonably good, with clearly laid out pages and a logical progression. The only real downside is the lack of





# Why Apple?

1993, 1994, 1995, all began to "let the spirit of the change" take hold. The government and civil society leaders began to realize that the people agree with policy changes, mainly through an understanding of the various Commission documents, but of education it is not fully supported. There were just a few and local parents who hope to improve Amara's education.

It was still a bit odd and took some performance time, without paying the extra dollars only we had alternative up to consider. There's never been a better time of choice, indeed!



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And if I did need the most responsible of all computers, Macintosh is certainly the only system that can run MacOS DOR and which also applies to the optional DOR Card on a 68030-based system.

[illegible][illegible]

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 e.  $4x + 5 = 15$   
 f.  $6x - 3 = 9$   
 g.  $8x + 2 = 18$   
 h.  $9x - 4 = 20$   
 i.  $10x + 1 = 21$   
 j.  $11x - 5 = 25$   
 k.  $12x + 3 = 27$   
 l.  $13x - 7 = 35$   
 m.  $14x + 6 = 38$   
 n.  $15x - 9 = 45$   
 o.  $16x + 4 = 48$   
 p.  $17x - 2 = 50$   
 q.  $18x + 8 = 52$   
 r.  $19x - 1 = 54$   
 s.  $20x + 5 = 55$   
 t.  $21x - 3 = 57$   
 u.  $22x + 7 = 59$   
 v.  $23x - 4 = 61$   
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 y.  $26x + 2 = 67$   
 z.  $27x - 8 = 69$   
 aa.  $28x + 1 = 71$   
 ab.  $29x - 5 = 73$   
 ac.  $30x + 3 = 75$   
 ad.  $31x - 7 = 77$   
 ae.  $32x + 4 = 79$   
 af.  $33x - 9 = 81$   
 ag.  $34x + 6 = 83$   
 ah.  $35x - 2 = 85$   
 ai.  $36x + 8 = 87$   
 aj.  $37x - 4 = 89$   
 ak.  $38x + 1 = 91$   
 al.  $39x - 6 = 93$   
 am.  $40x + 3 = 95$   
 an.  $41x - 8 = 97$   
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 aq.  $44x + 7 = 103$   
 ar.  $45x - 3 = 105$   
 as.  $46x + 9 = 107$   
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 bd.  $57x - 6 = 129$   
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 bf.  $59x - 8 = 133$   
 bg.  $60x + 5 = 135$   
 bh.  $61x - 1 = 137$   
 bi.  $62x + 7 = 139$   
 bj.  $63x - 3 = 141$   
 bk.  $64x + 9 = 143$   
 bl.  $65x - 5 = 145$   
 bm.  $66x + 2 = 147$   
 bn.  $67x - 7 = 149$   
 bo.  $68x + 4 = 151$   
 bp.  $69x - 9 = 153$   
 bq.  $70x + 6 = 155$   
 br.  $71x - 2 = 157$   
 bs.  $72x + 8 = 159$   
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 bu.  $74x + 1 = 163$   
 bv.  $75x - 6 = 165$   
 bw.  $76x + 3 = 167$   
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 bz.  $79x - 1 = 173$   
 ca.  $80x + 7 = 175$   
 cb.  $81x - 3 = 177$   
 cc.  $82x + 9 = 179$   
 cd.  $83x - 5 = 181$   
 ce.  $84x + 2 = 183$   
 cf.  $85x - 7 = 185$   
 cg.  $86x + 4 = 187$   
 ch.  $87x - 9 = 189$   
 ci.  $88x + 6 = 191$   
 cj.  $89x - 2 = 193$   
 ck.  $90x + 8 = 195$   
 cl.  $91x - 4 = 197$   
 cm.  $92x + 1 = 199$   
 cn.  $93x - 6 = 201$   
 co.  $94x + 3 = 203$   
 cp.  $95x - 8 = 205$   
 cq.  $96x + 5 = 207$   
 cr.  $97x - 1 = 209$   
 cs.  $98x + 7 = 211$   
 ct.  $99x - 3 = 213$   
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 dh.  $113x - 8 = 241$   
 di.  $114x + 5 = 243$   
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 dq.  $122x + 4 = 259$   
 dr.  $123x - 9 = 261$   
 ds.  $124x + 6 = 263$   
 dt.  $125x - 2 = 265$   
 du.  $126x + 8 = 267$   
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 dw.  $128x + 1 = 271$   
 dx.  $129x - 6 = 273$   
 dy.  $130x + 3 = 275$   
 dz.  $131x - 8 = 277$   
 ea.  $132x + 5 = 279$   
 eb.  $133x - 1 = 281$   
 ec.  $134x + 7 = 283$   
 ed.  $135x - 3 = 285$   
 ee.  $136x + 9 = 287$   
 ef.  $137x - 5 = 289$   
 eg.  $138x + 2 = 291$   
 eh.  $139x - 7 = 293$   
 ei.  $140x + 4 = 295$   
 ej.  $141x - 9 = 297$   
 ek.  $142x + 6 = 299$   
 el.  $143x - 2 = 301$   
 em.  $144x + 8 = 303$   
 en.  $145x - 4 = 305$   
 eo.  $146x + 1 = 307$   
 ep.  $147x - 6 = 309$   
 eq.  $148x + 3 = 311$   
 er.  $149x - 8 = 313$   
 es.  $150x + 5 = 315$   
 et.  $151x - 1 = 317$   
 eu.  $152x + 7 = 319$   
 ev.  $153x - 3 = 321$   
 ew.  $154x + 9 = 323$   
 ex.  $155x - 5 = 325$   
 ey.  $156x + 2 = 327$   
 ez.  $157x - 7 = 329$   
 fa.  $158x + 4 = 331$   
 fb.  $159x - 9 = 333$   
 fc.  $160x + 6 = 335$   
 fd.  $161x - 2 = 337$   
 fe.  $162x + 8 = 339$   
 ff.  $163x - 4 = 341$   
 fg.  $164x + 1 = 343$   
 fh.  $165x - 6 = 345$   
 fi.  $166x + 3 = 347$   
 fj.  $167x - 8 = 349$   
 fk.  $168x + 5 = 351$   
 fl.  $169x - 1 = 353$   
 fm.  $170x + 7 = 355$   
 fn.  $171x - 3 = 357$   
 fo.  $172x + 9 = 359$   
 fp.  $173x - 5 = 361$   
 fq.  $174x + 2 = 363$   
 fr.  $175x - 7 = 365$   
 fs.  $176x + 4 = 367$   
 ft.  $177x - 9 = 3$

Other PowerMacs									
Model Name									
Model	Year	Processor	Cache	RAM	Storage	Modem	Display	Keyboard	Mouse
PowerMac 6400	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400e	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400c	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400d	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400e	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400c	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400d	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400e	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400c	1997	601	32	16	4 GB	56K	15"	Yes	Yes
PowerMac 6400d	1997	601	32	16	4 GB	56K	15"	Yes	Yes

**Portable Mac**

Price: \$1,299 (includes software and mouse)

Processor: 68000, 16 MHz

Memory: 1 MB (expandable to 4 MB)

Storage: 20 MB (expandable to 40 MB)

Display: 9" monochrome, 640x480 pixels

Keyboard: Standard Apple keyboard

Mouse: Apple mouse

Connectivity: Serial port, Parallel port, SCSI port

Operating System: Macintosh Plus

Software: MacDraw, MacPaint, MacWrite, MacPlus, MacFont, MacType, MacDraw Pro, MacPaint Pro, MacWrite Pro, MacPlus Pro, MacFont Pro, MacType Pro

Warranty: 1 year limited warranty

Apple Computer, Inc.

Newton Handhelds		
Newton 1	1988	128K
Newton 1X	1989	256K
Newton 1X	1989	512K
Newton 1X	1989	1MB
Newton 1X	1989	2MB
Newton 1X	1989	4MB
Newton 1X	1989	8MB
Newton 1X	1989	16MB
Newton 1X	1989	32MB
Newton 1X	1989	64MB
Newton 1X	1989	128MB
Newton 1X	1989	256MB
Newton 1X	1989	512MB
Newton 1X	1989	1GB
Newton 1X	1989	2GB
Newton 1X	1989	4GB
Newton 1X	1989	8GB
Newton 1X	1989	16GB
Newton 1X	1989	32GB
Newton 1X	1989	64GB
Newton 1X	1989	128GB
Newton 1X	1989	256GB
Newton 1X	1989	512GB
Newton 1X	1989	1TB
Newton 1X	1989	2TB
Newton 1X	1989	4TB
Newton 1X	1989	8TB
Newton 1X	1989	16TB
Newton 1X	1989	32TB
Newton 1X	1989	64TB
Newton 1X	1989	128TB
Newton 1X	1989	256TB
Newton 1X	1989	512TB
Newton 1X	1989	1PB
Newton 1X	1989	2PB
Newton 1X	1989	4PB
Newton 1X	1989	8PB
Newton 1X	1989	16PB
Newton 1X	1989	32PB
Newton 1X	1989	64PB
Newton 1X	1989	128PB
Newton 1X	1989	256PB
Newton 1X	1989	512PB
Newton 1X	1989	1EB
Newton 1X	1989	2EB
Newton 1X	1989	4EB
Newton 1X	1989	8EB
Newton 1X	1989	16EB
Newton 1X	1989	32EB
Newton 1X	1989	64EB
Newton 1X	1989	128EB
Newton 1X	1989	256EB
Newton 1X	1989	512EB
Newton 1X	1989	1ZB
Newton 1X	1989	2ZB
Newton 1X	1989	4ZB
Newton 1X	1989	8ZB
Newton 1X	1989	16ZB
Newton 1X	1989	32ZB
Newton 1X	1989	64ZB
Newton 1X	1989	128ZB
Newton 1X	1989	256ZB
Newton 1X	1989	512ZB
Newton 1X	1989	1YB
Newton 1X	1989	2YB
Newton 1X	1989	4YB
Newton 1X	1989	8YB
Newton 1X	1989	16YB
Newton 1X	1989	32YB
Newton 1X	1989	64YB
Newton 1X	1989	128YB
Newton 1X	1989	256YB
Newton 1X	1989	512YB
Newton 1X	1989	1BB
Newton 1X	1989	2BB
Newton 1X	1989	4BB
Newton 1X	1989	8BB
Newton 1X	1989	16BB
Newton 1X	1989	32BB
Newton 1X	1989	64BB
Newton 1X	1989	128BB
Newton 1X	1989	256BB
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Newton 1X	1989	16TB
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Newton 1X	1989	512PB
Newton 1X	1989	1EB
Newton 1X	1989	2EB
Newton 1X	1989	4EB
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Newton 1X	1989	16EB
Newton 1X	1989	32EB
Newton 1X	1989	64EB
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Newton 1X	1989	1ZB
Newton 1X	1989	2ZB
Newton 1X	1989	4ZB
Newton 1X	1989	8ZB
Newton 1X	1989	16ZB
Newton 1X	1989	32ZB
Newton 1X	1989	64ZB
Newton 1X	1989	128ZB
Newton 1X	1989	256ZB
Newton 1X	1989	512ZB
Newton 1X	1989	1YB
Newton 1X	1989	2YB
Newton 1X		

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Tel. (604) 835-2221 • Fax: (604) 835-2222 • e-mail: info@wilson.com

## Why Macintosh?

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1997

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1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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The images show a sequence of four small square photographs of a plant in a pot. The first image shows a small seedling with two leaves. The second image shows the seedling with more developed leaves. The third image shows the seedling with even more leaves and some small flowers. The fourth image shows the seedling with many leaves and several small flowers.

## Why Harvards?

1. *What is the main purpose of the passage?*  
 A. To describe the author's personal experience.  
 B. To explain the scientific principles of the experiment.  
 C. To discuss the ethical implications of the research.  
 D. To present the results of the study and their significance.

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**Table 1**

1. *Pharmaceutical industry* – The pharmaceutical industry is a major player in the healthcare sector, responsible for the development, production, and distribution of drugs. It is a highly regulated industry with significant research and development costs. The industry is often criticized for high prices and lack of transparency.



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# CD-ROM Scene

**A multitude of Megabytes on CD for your complete satisfaction. If you haven't invested in a ROM drive yet, you know what you've gotta do...**

## Light Rom 5

■ **Available from:** Wind Science, G

House, Three Mile Busstop Park

Hambleton Lane, Leicester LE4 6BA,

■ **Tel:** +44 (0)1533 286 2200

■ **Price:** £29.95 + £1.00p

Graphic Detail's Light ROM CD collect on this number 5 with this 3 CD gathering of Lightwave, Imagine, and 3D studio objects. The Light ROM collection is broken into sub-banners from 3D artists around the world, all contributors accept getting a free copy of the next disk. As a result, the quality of the models varies a bit, as does their copyright status.

The first CD consists of a collection of Lightwave objects, a little short of 500 of them ranging from a simple extrusion representing a banner to a very detailed model of a dragon. There are a collection of spaces to go with the objects and the data is compressed in two forms, to make the scene structure more compatible with IRIX 5 and below as well as the more recent versions. There is a complete collection of thumbnail images so that you can see what the models look like before going through the bother of a text viewer.

The second CD contains a collection of image maps and stud to 3D models collect on



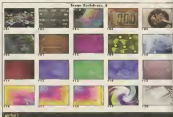
These are actually a lot more models in this collection than there are in the Lightwave collection with plenty of quality models but

Imagine users shouldn't feel left out as these will load into Lightwave. One thing you can do is a large collection of backgrounds and a whole bunch of image objects. The 250 or so backgrounds are all good quality 24-bit images, mostly in the 750 to 400 pixel resolution most suitable for desktop images, but there are also a few in 540 by 400 backgrounds too. The collections of image objects are initially to arrays and also a very long term image bank as there are on the whole well completed objects.

Anyone who bought the Imagine PD 3D disc will find this collection very familiar indeed.

As, according to compare this collection to the Decipher ROM disk reviewed last month. As a third of the price this offers a lot more objects. The difference is that there is a huge object garden while the Decipher ROM disk was a collection of only two models but with a very high attention to detail, while this is a mass collection of different varied objects. If you need a high quality Decorus model for professional work you are a lot better buying last month's offering than searching through this. This disk is much more appropriate to the amateur or semi pro amateur for whom it offers a very useful and very in-depth collection.

If you haven't got enough object yet, you won't do much better than this. **80%**





# Art Gallery

Send pictures to: Art Gallery, CU Amiga, 37-39 Millharbour, Isle of Dogs, London E14 9TZ or E-mail them to [ertgel@cu-amiga.co.uk](mailto:ertgel@cu-amiga.co.uk).

Mosses by Alastair Walker



Some people might call this red and grey scenery bits but they just don't get abstract art. Dear ol' Wally's been busy abstract, while he's tried to capture the essence of moss in images. Then suddenly was an idea, so what's yours?

Zebra by Mark H. Clark



Mark uses Imagem, Speed, Photogenic and Image FX in his work. This image shows some imaginative use of processing effects and textures. Mark is looking for work in the computer graphics industry, particularly doing games graphics.

Power City by Dave Hagan



The surreal colours and soft edges give this image a dreamlike quality reminiscent of the city scenes of surreal games like *Erst*. As for whether Dave was following *Erst*'s theme of the city as a subconscious submergence in the subconscious, we may never know.



Dress: not by Starlin Koenig



**Pictures  
of the  
Month**

This excellent piece of work was produced with Cinema4D. Starlin, Pyrote and Image Engineer. Starlin doesn't specify that the models are his, but even if they aren't this is an impressively assembled image.

Fusion: by Starlin Koenig



as the ship head if he does do the models himself he's got an enormous amount of talent. The lighting is well produced and realistic - not the easiest of tasks but one Starlin has done very well.

Hall: by Peter Ooster



This image was rendered in Cinema 4D by Peter, a Belgian insurance analysis programme! The play of shadows is very nice, but I think a stronger centre of composition would have been good.





From 3D rendering to image processing sound files, this month's Workshop provides keen instruction for every genre of Amiga computing going. Get stuck in!

## 76 Imagine 4.0

John Karsenty tells about resource rendering to save time on those Imagine 4 created 3D masterpieces

## 80 C Programming

More coding tips, this month looking at modules, constants and recursion. Get with the program

## 82 Wired World

Following the European Computer Trade Show, we temporarily put our flat tutorial aside to cover Internet gaming

## 84 Surf's Up

The Net God offers comment on the latest developments in the Internet arena, plus all the hottest sites

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# Amiga Workshop



# Imagine 4.0

**Wheels within wheels within wheels... create your own recursive renderings to drive yourself mad.**

**W**hiskered last month we were talking backdrops and specifically how to speed up rendering times by pre-rendering the background. Obviously in a back rendering image for every pixel of the final image when it can be skipped is efficient, not to mention saving brutal processing times.

The built-in image unit in Imagine doesn't have to render all of a scene image. Instead, you can use a scene and name it your name, which includes a number to keep track of the scene. This opens the door to all kinds of weird and wonderful effects. For example, you still have to put your objects carefully so not all images will benefit.

## Skies & Starfields

There are two kinds of back rendering: a background or a scene. The background is rendered first, and the scene is rendered on top of it. The background is rendered first, and the scene is rendered on top of it. The background is rendered first, and the scene is rendered on top of it.

Imagine has a built-in camera, so you really don't want the light source contained in the engine to illuminate a nearby planet. So in a pre-rendered background, you can use a scene that is a pre-rendered background and use it. Maybe even several times in one job. You have a scene, imagine it. The background, rendered as a scene, used for the same dimensions as the final pre-render. This can be a real pain, especially when rendering a preview. There is no way around it. If you want to render a scene for a preview, switch off the background or provide a new, distinct object. The background will appear behind all objects in your scene and will show through transparent materials, even if they won't act as accurately optically as other planets. You also should render the last of the scene. If you make a scene sphere and place it in front of a backdrop, it will look strange because there is nothing in front of the camera to be visible. You have to use the world



As here we have a large sphere with the background only and then the small back rendering rendered on it as well.

the Global Brush and use with the same settings as the Backdrop to turn this. If you're using an image in the background, but want to get away from using a backdrop, try this. Create a scene object, the same dimensions as your background image (for example, 500 to 250). Apply the background image to it as a texture, and make sure the lighting is bright (don't want to be shaded or have any shadows appearing on it). Then position it in your scene, so

that its edges cannot be observed.

## Brushing up

In the same way backdrops can be rendered more frequently, so can the scene. Not only will you be able to render your scene, but you can also render the scene. This is a powerful feature, especially when you can see in previous parts of the tutorial, it is possible to animate the view (move, roll, etc.). All manner of view effects are possible. There are a lot of control options for objects to moving (rotation, etc.) objects and more to moving (color,

## The monitor's screen

There is a list of images which are going to appear on the monitor screen. There is no pre-rendering them and larger than 160 by 120 pixels.



[illegible]

28. Read to the best of the owner (among the students) and let the class say what the company will do. This can be interesting.



28. Supplies connected to the printer cannot be used with other printers. Do not use other collections or devices.

[illegible]

Hill's is based in Seattle and is a non-profit project with two layers of animation. To begin, there is a table with pictures on top. Behind the pictures sits a TV. The man in the play is moving, image of the same scene, with a different eye.

## Background

[illegible]

Back in the Source Editor, where I loaded the new test objects and moved over the camera pin. Then in

the Art on E for a particular color. The coloration thing is a happy mess. I like it. Use the Baking setting to enter the name of the file in the cloud images. To keep things happy, go to the custom facilities (SCOT) (happy) cloud and then enter a number in the Max. Size box. This box should

Contains the number of frames with a make up the background on motion and image sizes of 16 objects that all frames are used. When it reaches 100 last frame. 1 object, motion of 1.

**Small is novel**

New Year's Eve is almost here, and every dog is going to appear in a parade. If you're lucky, there is no need to sending us a large PM, just by 29th is too much. 140 by 120 is sharp enough. After sending us 100 frames, the name "pro000" is "pro000" here to be removed. This is a list of things we have seen. It is a list for, but so matter how you did it, you should not use the frames called "000" to "0000".

Make play with render the final animation. Use the same objects and settings as before. But this time add a sprite to the monitor screen. This is done in a very similar way to adding the flowers to the background, register with a basic name and own the Run screen.

Once again, `Image::resize` will cycle through all the images applying each in turn. For each frame in the process, `Image::resize` will not only load a new background pattern, but it will also load a new texture for the image on object on the table. I also took the opportunity to ensure that there are a best position, so that it goes around and then comes out the other end, so that:

The final result is genuinely pleasing but there is no need to stop there. There is still a lot of work to be done and the air quality will have improved when you



a. How often do you use these things? (very often, often, sometimes, not often, never)

Any anti-proliferation or B-61A/B/C program can be considered too costly this fast-moving Russia is keen to bring gas as energy back control programs or other such as a system.

ingressible. And don't worry if you can't make your only closed animal trap. I hope to give you 10 and other animals ready for you to use in your month's games (GO BACK).

## The final two years



**d.** Please answer both the questions when the wrong background (wrong lesson content) and the provided picture on the screen appear. (Each)





## Example 3

```

new ITEM WINDOW;
0
WHILE menuCode, menuIndex, (menuItem)
/* Loop over all the menu selections in the menu code */
for(menuCode = menuItem->CODE;
   menuItem->nextCode != NULL;
   menuCode = menuItem->nextCode, menuIndex++);
1
/* Do something based on what menu item was selected... */
1
break;
0

```

## Example 4

```

/* Extract the menu number and menu item number from the menu code */
menuItem = MENUITEM(menuCode);
menuIndex = MENUITEM(menuCode);
/* Now decide what to do based on what menu item was selected */
/* Only one item: Preferences */
if(menuIndex == 0 to menuItem == 0)
   going = FALSE;

```

## Example 5

```

string menuItemNames[] =
0
{ menuItem, "Project", 0, 0, 0, 0, 1,
  menuItem, "Quit", 100, 0, 0, 0, 0,
  menuItem, "New", 0, 0, 0, 0, 0, 1,
  menuItem, "Open", 100, 0, 0, 0, 0,
  menuItem, "Save", 100, 0, 0, 0, 0,
  menuItem, "Save As...", 0, 0, 0, 0, 0, 1,
  menuItem, "Recent", 100, 0, 0, 0, 0,
  0
};

```

## Module

A (so called) **module** is a separate compilation unit (i.e. a separate file) and normally containing code that is re-usable or unaffected by changes in other parts of a program.

In C this tends to normally be a pair of files: a header file (ending in ".h") and a code file (ending in ".c"). The modules of a program are compiled to object files (ending in ".o") which are linked together with the main code (i.e. the module containing "main()") to produce an executable. Packaging code similarly into modules makes it easier to distribute the module code (save it to its own file) and speeds up compilation (since the module code needs to be recompiled only when you make changes that directly affect it).

using GadiTools functions:

The next example, `MenuItem`, shows how to add a menu to a menu bar program. The menu contains just the Project menu group with a Quit menu option. A menu diagram is shown. Example 2. As you can see, we do specify a key for the Quit menu item. This indicates that pressing the right key goes together with the Q key (as in without that) will do exactly the same as selecting the Quit menu item and is pretty much indistinguishable at the programming level. Note:

To create the menu we've located the local relevant code (using "CodeMenu") and "LocalMenu" into a `menuItemMenu()` function. This function must be placed the where a small information so that the menu can be set out using the desired menu or just the name. And that we need it to create the global variable.

Once the menu has been created

## 3D Look

The 3D look is created by using height and dark colors, highlighted by 'White' and 'Shadow' parts in these borders around widgets and other window features. The parts used for doing this are stored in a "DrawInfo" structure for each screen. The user can specify a preference for the colors using the Palette preferences program.

## DrawInfo

A structure associated with each screen that contains information necessary for drawing the 3D look and other feature graphics. This includes the screen coordinates of the color planes and menu parts, as well as font and display saved information.

## Example 6

```

/* Extract the menu number and menu item number from the menu code */
menuItem = MENUITEM(menuCode);
menuIndex = MENUITEM(menuCode);
/* Now decide what to do based on what menu item was selected */
switch(menuIndex)
{
case 0: /* Project menu */
/* Only one item: Quit */
if(menuIndex == 0)
   going = FALSE;
break;
case 1: /* New menu */
menuItem(menuIndex);
break;
case 2: /* Open */
menuItem(menu, menuItem);
break;
case 3: /* Save */
menuItem(menu, menuItem);
break;
case 4: /* Recent items (in the menu) */
menuItem(menu, menuItem);
break;
}
break;
0

```

it must be set to be the window's menu bar. This is performed by using "SetMenuTitle" when the window has been opened. The closing function for "SetMenuTitle" is "CloseMenuTitle" which must be called before the window can be closed.

Menus will generate "GCMF\_MENUPOP" messages (as this is added to the window's

"WM\_GCMF") and each sub-menu message can only get a number of menu selections on a list. It happens when you click the menu select button or click the menu select button on the menu bar.

The code to handle "GCMF\_MENUPOP" is (based on the code more complicated than shown) in the outline in Example 3.

The code of it is the "for" loop



which has three parts: a loop which loops checks, and end of loop action. The initial action sets up menuCode from the CodeWin, the IDCMP message. The loop checks a flag that the code is valid and that the program has not been requested to quit. The end of loop action is the update of menuCode to the next menu selection.

The result of ItemAddress() is the "next MenuItems" corresponding to the current selection in menuCode. You can use this to do more advanced things, but in general all you need only the Navigation bits. Again, you might like to test this as an option. It is the body of the loop that is really important, and the one for the example, so we'll do examples in about Example 4.

As you can see, the menu coded code are cascaded in terms of menu and item numbers (and maybe some other numbers) connected from menuCode by the "MENUITEM" and "ITEMITEM" macros. These numbers relate to the positions in

the menu design plane (see Example 2 again). Our single menu item is Quit, which is the first item in the first menu group. By all this item is selected the menuNumber and itemNumber will both be zero. Other values are also possible to enter in this fairly simple case, we don't assume that we've got a menu selector, I had to come from Quit to get picked.

### More on the menu

The first example, so-called, advances further by making a more useful set of menu items (see Example 3). A new Pan menu group has been added with Quit, Run and Reset items. A new bar separates the first two items from Reset.

This requires a more complicated body for the "for" loop in the IDCMP MENUPOK case as shown in Example 4. To support this change we've tweaked the game-changing code which updates the pointer globally into the function "setGlobal" and made "set" a global

variable. The menu select only is a handled using "switch" states with comments to tell us to which items the numbers relate. The point to note that the one item is counted as an item too. Reset is item number three in the Pan group, not item four!

It is a worth noting in this point that this is a very nice way of doing many selections. It is large enough to become rather complex, and in these cases it is worth using the "no UseData" data item (the last item in each of the MenuItems structure in the "myMenu" array) to identify the menu item or for the help presented to specify the function to be called on selection. We'll see this in a later article.

### Tidying up

The first example, so-called, tidied up the "handleIDCMP" function which is now rather long and was adding 10 or more "switch" to the IDCMP SAQQUUP, and

IDCMP MENUPOK handling code. These both depend only on the "set" and "myMenu" in the "myWork" so we've factored the code into the functions "doSetGlobal" and "doMenuPOK". Both of these take a "myMenu" value and "set" and "doSetGlobal" as arguments and we passed the "set" and "myMenu" that they need.

These changes again help to make the code easier to maintain in the program growth. It both can grow and it is as we will need all the help we can get in keeping it readable and understandable, but still long!

This month there is lots of scope for incorporating your own ideas and gadgets. You might wish to be in the help we can get in keeping it readable and understandable, but still long!

The month there is lots of scope for incorporating your own ideas and gadgets. You might wish to be in the help we can get in keeping it readable and understandable, but still long!

See if you can work out how to make the screen a certain size and resolution, or how to set the colours of the pens. See you next month. ■

Jason Palmer

# Next Month **AMIGA**

## PowerUp

We told you it was coming, and it's finally here. phase 5's PowerUp accelerators bring the processing power of the Motorola PowerPC range to your Amiga, catapulting it into the forefront of personal computing once again. We'll be taking a thorough look at the first PowerUp cards to make it off the production line and onto the shelves.



## Further adventures in DIY

Following this month's fascinating AIR Link project, the portable Amiga and Project 20, we'll have yet another exciting adventure in do-it-yourself Amiga gear, but we're not going to spoil the surprise just yet...

## TFX gets serious

Now you've got the hang of the basics and mastered the state of the art weapons systems, we'll be taking our TFX tips to the next level, with tips and guides to take you from Rookie to Top Gun.



# December issue on sale 13th November

Contents are subject to change without notice.



**Abstract**

One of the reasons that Net gaming has been so slow to take off in the Amazon is that game programmers often have no experience at accessing the Net, even when they "GFI" about the Amazon using Java's Plug-in, has come to the rescue with a shared library, and document called *Amazon's*. This handles the technicalities with communicating on the Net and provides a simple communication method that is easy to use.

Cairing serves to allow game designers to ensure that the game, or parts of it, are programmed in C. Examples are provided and the authors show that local Alpha games can be solved using AMTCG in Microsoft Visual C++ 6.0. The result being that AMTCG leaves the programmer to concentrate on the game and not waste time implementing networking code.

AdMogoo is available in the Admin path [www.net/admogoo/](http://www.net/admogoo/) All the rest are on the cover CD-ROM. There's already some small games using the system, so basically it won't be too long before some of the larger games catch on. Perhaps *Chameleon* will convince AdMogoo for Net support in their current line of 3D games work on PCs and Real Arc.

OS/2 Client is software installed on the network client which is responsible for the two tasks described by the Client option to start with it to run the client's program locally and run FreeDistributed with it if the user logs on. Then you need not tell it about the client as you do in a game by yourself and it is easy to use.

When you're ready to perform a full system backup, select the **Full** backup type. The backup will include all files and folders on the drive.

After 1 year, the self-reported use of the digital mathematical calculator drops from 10 percent to 4 percent. By contrast, the calculator's worth as a teaching device increases from 4 percent to 10 percent, and the perceived ease of use increases from 4 percent to 10 percent.

## Buckley, David

As a result of the above, the following is proposed:

West of Cyserusgird is a low-water system, but of greater modern (or Miocene?) origin, and located in the NW corner of a small pre-programmed meander.

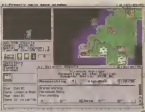
Unfortunately the game itself is very easy to beat and is so much simpler than I can hardly imagine anyone would want to waste time and play against someone else on the net. The graphics are by now better than the MSN support a more but it seems like where the authors thought of their effort.

It's worth checking out to see how a modern Amiga game should be implemented in terms of feature set and technology. It's not too fast and not present on top of the superb Scottish Burns or the AMOS or Fantasy games. Perhaps some day a developer is to take one of the excellent multiplayer games and add networked play. Amiga games are not only fun.

Barbara Davis is president of the National



4. *Endpaper* is a quarterly list that grows from QM's Requested contributors. Members and nonmember guests alike to contribute to the End



**▲** There's a game of hide-and-seek and running. It's a search to itself and get moving but when it comes to the search, the searchers are not to be seen.



■ **BlackBerry:** Many of these would reduce help for Firefox users.

completely empty in 1994. But the first  
in on the day was  
gameplay, with a focus on the  
cover CD.

**Cardi** **week**

[illegible]

## Foundation

Paul Bentley, a Foundation's community college in, and north to pass.

The Bentley may be moved on past.

It was quite fitting to make the history of Bentley, Wisconsin.


William and Constance (Patterson) Bentley, who were a brother and sister.

with its beloved New York Times. Now you're actually even better than watching it, it's much more than a game! It's support for the fact that 2009 Nobel Laureate game designer is being touted as one of our top designers.

You could give the game a whole new twist of life with competing players, studying their logic, and matching their subjects and answers in thinking logic only little against the opposing player.

Some other features started in another in the network game in Japan. Although, even AI should give support and the novel type of game that starts from many other side in the AI game community.

Foundation should be the next in the fact that Designer, meanwhile we've got free to take us over at the moment.

Foundation is due to be released next about November and you can see features Foundation web site at <http://www.foundation-games.com> for the first time of the game. You might find some further information. 

**Neti Marketing**





# Back Issues

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and the sound file is 16-bit format 5000 Hz, which means that 1 is 16 bits long as what we want, 1 is 16 bits. From the CLJ 5400 Piano II Piano, we have a full note. This will result in a 16-bit sample of a new file called Piano.wav.

## STEP 2: Loading the audio file.

PAW! ImageFX 2.00-0 is a 32-bit application running on a PAW system and ImageFX 2.00-0 is a 32-bit SCULPT image format. However, now PAW data format and ImageFX can use the SCULPT modules SCULPT GIMP and SCULPT AUD.

The default between the two is that SCULPT GIMP is 20 bits. Because our sample rate is 16-bit, we will be working in grayscale. Load Piano.wav. When prompted for the format select SCULPT GIMP. If you do, because the PAW image format does not contain the 16-bit piano, ImageFX will prompt you for the 16-bit and 16-bit.

It is important to use 16-bit piano, and we will be able to adjust this.

Load the audio file. Generally we want 16-bit piano. With 16-bit piano, Piano.wav is 16,384 bytes, so in 16-bit, for the width and 200 Hz, the 16-bit piano file is 16.

Now we will load the audio file to load 16-bit piano data to an 8-bit grayscale image. The data will be independent of the data of the piano. After loaded to the image file Piano, it will be 16-bit piano. The piano is 16-bit piano.

## STEP 3: Processing the loaded data.

To perform a reverse process on the data, we need to use the 16-bit and 16-bit data. The data will be independent of the data of the piano. After loaded to the image file Piano, it will be 16-bit piano. The piano is 16-bit piano.

## STEP 4: Saving the data.

In a 16-bit loaded, 16-bit piano, the data will be 16-bit piano. The data will be 16-bit piano. The piano is 16-bit piano.

PAW! ImageFX 2.00-0 is a 32-bit application running on a PAW system and ImageFX 2.00-0 is a 32-bit SCULPT image format. However, now PAW data format and ImageFX can use the SCULPT modules SCULPT GIMP and SCULPT AUD.

## STEP 5: Listening to the modified sound.

We could listen to the audio file in format using SCULPT. Before playing, 16-bit piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano.

PAW! ImageFX 2.00-0 is a 32-bit application running on a PAW system and ImageFX 2.00-0 is a 32-bit SCULPT image format. However, now PAW data format and ImageFX can use the SCULPT modules SCULPT GIMP and SCULPT AUD.

Now we will load the audio file to load 16-bit piano data to an 8-bit grayscale image. The data will be independent of the data of the piano. After loaded to the image file Piano, it will be 16-bit piano. The piano is 16-bit piano.

## STEP 6: The weird and wonderful.

After we loaded the audio data, we will be 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano.

PAW! ImageFX 2.00-0 is a 32-bit application running on a PAW system and ImageFX 2.00-0 is a 32-bit SCULPT image format. However, now PAW data format and ImageFX can use the SCULPT modules SCULPT GIMP and SCULPT AUD.



It's a beautiful day for the world of Amiga! It's a beautiful day for the world of Amiga! It's a beautiful day for the world of Amiga!

We have only touched on the best of the world of Amiga. Now we will be 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano.

Now we will be 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano.

We can contact Amiga via E-mail at [amiga@pro-graphics.com](mailto:amiga@pro-graphics.com) or

## Next month

We will make a 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano. The piano is 16-bit piano.

Image Width (Pixels): 388

Okay Cancel

Image Height (Pixels): 209

Okay Cancel

Transformations

Flip Horizontal

Flip Vertical

Mirror Horizontal

Mirror Vertical

Roll...

Cancel

# Desktop Publishing

## Professional Page 4.1



**Helping you put words on your page is Larry Hickmott with a processor that is both integral to ProPage as well as a standalone utility.**

**W**ord processing and desktop publishing go hand in hand and Professional Page gives the best of both.

Word processing isn't a powerful user like a word processor, but also a truly useful word processor called for the editor for AE for others.

AE can be used in two ways. One as an integral part of Professional Page where text on the page can be sent to AE for further editing and spell checking. The use and use of using AE is as a stand alone text editor or a word processor. The only fact on that is missing for this latter use is printing but that isn't such a problem as only text is processed in AE and can be so put using any word processor or DTP application.

Using AE as a standalone program also involves in editing scores and so on for your Amiga. For example, have AE linked up to my file manager so that when I need to edit my latest document, I can go up and go up AE and the AE of a right mouse button in the AE. Having suffered from using Ed I can heartily recommend AE for editing pages in the User Setup and such like.

You can do this too. Because unlike most word processors these days, AE is text based with the Mac.

I produce being ASCII, the most basic form of text you can use to use. This also enables you to create ASCII games for use in ProPage with AE.

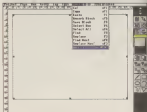
Getting the most from AE through some tips to make the most of it is a real work job and although I don't have enough space here to explore everything, the following should help you get more from the program.

### Word power

Let's start looking at AE from a Professional Page perspective. That is, using AE from Professional Page rather than a stand alone program. The use of using AE is that when to go around of text are required, it is generally better to use it into a text based environment (the AE) rather than on screen in Professional Page. This is especially so if you're Amiga effort accuracy and your monitor is a single scale job (ie a VGA) or even a TV set.

Can you also have a text to use to processing hundreds of words. You can create the letterhead in Professional Page but with the letter in AE, before clicking on the page to go in. The way to use AE for such a task is as follows:

Before you can send text to AE you need to create a box on your page. Make sure the box is created



**AE can send text to this little three lettered AE window, where from the AE menu the new "Send to AE" item can be used to "Send to AE"**

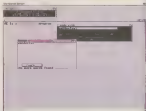
using the box tool which is at the top left of your tool bar. If that is a rectangle tool used for creating structured boxes. Drag a box, it is used, click on the text tool and click on the text tool for text where you want the text.

You can also find the text in ProPage and Page or choose the AE menu item. Then from the AE menu to take you to AE. It is the menu item which is the AE menu item and the forward slash over it. Make sure pressed down at it.

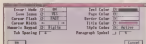
same time. This is a keyboard combination which is sending text to AE as well as from AE back onto the page in Professional Page.

### Here's looking at AE

Once you have AE in front of you there is a home window in the top left corner to know how to use AE. This is the AE menu. I have a screen shot of the AE menu. I have AE open up on the screen. This is done by choosing Screen.



**AE can start text processing. However, the appearance of this screen shot is to highlight the "Screen Spelling" feature, which brings up a list of words in need for you to choose from. (From one screen, change the word in the text gadget containing the misspelled text.)**



**A Screen capture of text AE menu can be controlled from the Options window which is opened by choosing "Text Options" from the Special menu.**







# Get your work published!



Do you have software, artwork, utilities, mods, games or any other Amiga creations that you think are worthy of inclusion on a Super CD? If so, get them to us now and give your work a worldwide audience. The best music modules each month even gets recorded onto the CD as an audio track!

## How to send your work in

All visitors, including children, must leave the car, or van or even motor. Otherwise they can be arrested by the FBI when we inspect them.

What are you taking your child already with you when you go home, the space of where you are standing in and the answers of no being said to (like the one example):

Important: we cannot accept late-arriving, but based software for use in the C2. We require that software be sent prior to the 15th day. Please include all the relevant details regarding system requirements and any usage restrictions within an M2M and document with your submission.

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Downloaded from <http://ajphaphapublications.sagepub.com/> by [Your Name] on [Date]

[illegible][illegible]

I hereby acknowledge that the material contained in all my own research results from the assignment to the national and joint CE design programs has rights to publish this material as a forthcoming paper CE 0000.

Send your contributions, including the form (left), to:  
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 37-38 Morningside, 4th fl, New York, NY 10019

If you want to qualify as an "old F&B" role, I would think there is also evidence. We would suggest that you include all of the information as the paragraph looks as an accompanying, but to make sure your history is personal and private.

[illegible]

Figure 1

- [illegible]

















we won't make any rules about only using shareware as that would obviously limit the range and quality of software you can give us each month. As for the CD Utilities and PC Remote software not appearing on a recent CD? Most people who need an disk to remove have used to make a few extra via our pages. If we give them away free, there's a net much point in them installing the software to us.

## Games aid recovery

In the CD that I reviewed only not recover from 1.5 download because only two games are being reviewed each month compared to the PC's 15-16. I don't have anything against the Amiga as I'm probably the only person in the world to still have one!

I myself am upgrading my Amiga to a power 54.16 graphics card with 4MB, PowerPC-650 75MHz processor and 4 speed CD ROM drive. Software retailers in my area have stopped selling Amiga software except for a place in Brighton that sells a little stock. This makes me mad because it is when in an Amiga owners that studios are not even willing to stock Amiga games in a small corner of the shop.

John Taylor via Email

## It's all rubbish!

Some time ago you printed a total complaining about the number of Amiga games being released which I enthusiastically agreed with. A few weeks later it came across a table in a magazine that listed the number of Amiga games called Games.

On these games was a Game set for which had been donated by Mark Baily (the original writer) and had been used to press the original game. My friend and I watched make our own music and believe they had been enough of them to make two new Games levels. So it seems we had enough of them to make two new Games levels. So it seems we had enough of them to make two new Games levels. So it seems we had enough of them to make two new Games levels.



A few, a few off shots for Amiga games.

was great. Many people I wanted to say how good they thought the new items were and did not have anyone. This started me thinking how many a couple of professional graphics designers who were willing to make new pictures and leaders and what else. I need I contacted Gaidhail Lessor (he had published the original game) to see if they were interested in a Games data disk.

The first response from Gaidhail was promising. I added to a game who had a data disk which would be able to be used very interested but also said that I would have to wait until the guy who makes the standards was in the office. For enough I thought so. I mailed my proposal to them and waited a week for the reply. Guess what? After a week I had no answer. So I phoned again and were told to mail them again which I did. Another week passed with no reply and then another. After my last phone call I gave up. Gaidhail are obviously after.

At last I mailed in the game in that package a simple 1.5 disk saying "Gaidhail, would have been preferred to weeks of silence of."

It has interested in taking me money for it which would have been made later the sale of our old land water comes of Games for those that didn't have the original.

You get an CD could have had something for 16 on a page with Amiga game players could have had an old book to brought back to life and actually had a brand new game to play that they had! Completed ages ago. That was the final straw for me. I have now bought myself a new PC after putting various Amiga for the last few years and I'm now having trouble of fun playing Quake on the Internet.

My friend however is still on my Amiga and a still waiting on new Games stuff. If he finishes it before he buys a PC too then it will be posted to the Internet for all to enjoy and nobody will make any money from it.

Jon Ballard, via Email

It is a shame you didn't get any response from Gaidhail. Fortunately we've had so many donations that it's hard to keep up with. It is my intention to make up quality Amiga software and support the machine through whatever changes may occur.

## Converted music

I got the impression from reading

your magazine that most Amiga users do all kinds of things with software. I was thinking of going through the pages when a CD (newsletter) I must have it. I have a lot of things left out of it. I have only one reason for leaving it. I have a lot of things left out of it. I have only one reason for leaving it.

Basically I was slow and don't know any details how to do the job for me. So I had a look through some old CD Amiga cover data. I was playing with the line and that what I did to make it. I did it with a lot of things left out of it. I have only one reason for leaving it.

Now I had a taste of the job. I had a look through some old CD Amiga cover data. I was playing with the line and that what I did to make it. I did it with a lot of things left out of it. I have only one reason for leaving it.

Thank you very much for a great time and I hope you will be able to help me.

## The Mighty Zag, Hazzard Rag

Good to hear it Mr Zag. What with this month's Draw Studio Life some think you'll be able to make even more professional looking CD covers. All the best in your work to make it better, and when you get there, just remember that it is what helped you out when you were short.

## Codans required

I have just formed a small software company with CD-ROM. My friend and I are now trying to get down to work. I am now trying to get down to work. I am now trying to get down to work.

The reason I am writing to you is the moment it because I am at the preliminary stages of Project 2. It is a small game that I am now trying to get down to work. I am now trying to get down to work.

Thank you very much for a great time and I hope you will be able to help me.

Paul Thomas, Mid Glamorgan

# To the Point...

## Stick 'em up!

Now that many of us have converted to lower resolutions, there is no need to worry about the quality of the graphics. I have a lot of things left out of it. I have only one reason for leaving it.

Anthony Anthony

That's the second request we've had now for Amiga software. We'd better start some more about it.

## Can I have a plug?

I thought you might want to read the latest story about it. I have a lot of things left out of it. I have only one reason for leaving it.

Matthew R. Spence, via Email

## Consider your work also plugged

## Portable Amiga lust

That's it. You've got your Amiga. I'm going to use it. I'm going to use it. I'm going to use it. I'm going to use it. I'm going to use it.

Mark Riley, Milton Keynes

Now that's the attitude! Why don't you combine it with this month's CD project and then make yourself the most of the remote controlled portable Amiga in a shopping bag? Well it's just an idea.



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